8-2019

Investigating Experiential Wilderness-Based Professional Development for K-12 Educators

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INVESTIGATING EXPERIENTIAL WILDERNESS-BASED PROFESSIONAL DEVELOPMENT FOR K-12 EDUCATORS

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Parks, Recreation, and Tourism Management

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by
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August 2019

Accepted by:
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ABSTRACT

Continuing education programs for teachers have the potential to provide beneficial outcomes for both participants and their students. Experiential wilderness-based programs are a unique form of continuing education because of their use of wilderness-based learning environments, outdoor-recreation activities, and experiential teaching initiatives. Research examining the influence of experiential wilderness programs on a range of outcomes (adjustments in behavioral conduct, pro-environmental behaviors, increased classroom culture) is well documented. However, there is little research focused on the use of these type of programs for professional development for educators. Therefore, this research investigated the North Carolina Outward Bound Educators' Initiative (NCOBEI) program as an experiential wilderness-based professional development opportunity for K-12 educators. First, we explore the range of personal and professional development outcomes educators' associate with participation as well as the influence of specific program elements on each outcome. Second, we investigate if the program assists educators' integration of experiential teaching techniques in their schools and classrooms; and further, if educators' beliefs and confidence regarding using these methods can serve as predictors of their later use. Lastly, we evaluate the NCOBEI program for its' influence on participants' positive character traits, forms of professional development, and post training use of experiential learning methods. Our findings demonstrate the powerful influence of experiential wilderness-based professional development opportunities for educators and should be used to support further opportunities for educators and other stakeholders to participate.

DEDICATION

To my parents Trudy and Richard Holland.

Mom and Dad, thank you for ensuring I have every opportunity in life.

ACKNOWLEDGMENTS

Dr. Kathleen E. Holland

Thank you to my wife. What a journey we have shared. Thank you for your continued support and perspective. It's good to be on your team.

Dr. Robert B. Powell

Thank you for your continued mentor and friendship. I am grateful for your skepticism and detail-oriented mind. Thank you.

Committee Members

Thank you Dr. Garst, Dr. Baldwin, and Dr. Quigley for your valued input during the design, implementation, and follow-up of this research pursuit. Thank you.

Dr. Gordon Grant

Thank you for sharing your wealth of knowledge and experience regarding the power of experiential education.

North Carolina Outward Bound

North Carolina Outward Bound funded this research project. I would like to thank all staff at the Table Rock Outward Bound Basecamp for their support and cooperation with this study. Without their help this project would not have been completed. Thank you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

Continuing education programs are increasingly important in ensuring that educators have the tools and knowledge needed to prepare students to succeed both in school and society (Stewart, 2014). For educators, continuing education programs include a wide range of specialized trainings, formal education programs, and professional courses intended to help educators improve their professional skills and effectiveness (Korthagen, Loughran & Russell, 2006). Continuing professional development (PD) of educators is thought to be effective in providing a range of potential positive outcomes including increased confidence, enthusiasm for collaborative working, and an enhanced self-efficacy, among others (Cordingley, Bell, Thomason, & Firth, 2005).

Experiential wilderness-based programs are one form of PD provided for educators. These PD programs utilize challenging adventure activities within natural settings and are intended to assist educators in developing new skills that can be transferred to the classroom (Norton & Watt, 2013). Experiential wilderness-based PD (EWBPD) programs attempt to provide situations where educators simultaneously gain knowledge, develop and apply skills, and solve problems (NCOB Education Programs, 2017). These programs utilize wilderness settings to challenge educators and provide experiences that foster growth as both individuals and professionals. However, few studies have focused on evaluating the impact of these EWBPD programs on educators' professional and personal outcomes (e.g. O'Sullivan, Anderson & Richard, 2008).

Additional research is needed in order to fully understand the potential impact of EWBPD programs.

Purpose of Study

The purpose of this study is to investigate the influence of an EWBPD program for participants. This process should provide a holistic understanding of these unique PD development opportunities and their implications of educators' personal and professional development. Our study focuses on 5 primary objectives:

1. Determine the range of personal and professional development outcomes educators associate with participation in the program.
2. Determine the influence of specific programming elements associated with outcomes received by educators.
3. Determine if the program influences educators' belief in the importance of, and their confidence in, integrating experiential teaching methods within their schools.
4. Determine if educators' beliefs and confidence can predict their later use of experiential teaching methods.
5. Determine if the program can improve educators' positive character traits and professional practices.

Outline of Dissertation

Following the independent article format, this dissertation consists of five chapters. Each chapter is outlined below, including the intended publication outlet. Chapters two, three and four will be formatted as research articles and will have their own introduction, methods, results, and discussion sections.

The first chapter is this Introduction. The Introduction provides background information that guided the development of this dissertation, the purpose of the study, and research objectives used.

The second chapter is titled "A Means-End Analysis of Experiential Wilderness-based Professional Development's Influence on Educators' Personal and Professional Development". Chapter two addresses the following objectives:

1. Determine the range of personal and professional development outcomes educators associate with participation in the program.
2. Determine the influence of specific programming elements associated with outcomes received by educators.

This article was written for publication in the Journal of Experiential Education due to the journal's aim of including research on experiential learning methods utilized in diverse contexts and its' scope of including issues concerning experiential learning, education, and participant outcomes.

The third chapter is titled "Understanding Beliefs and Confidence of Educators Participating in Experiential Wilderness-based Professional Development". Chapter three addresses the following objectives:

1. Determine if the program influences educators' belief in the importance of, and their confidence in, integrating experiential teaching methods within their schools.
2. Determine if educators' beliefs and confidence can predict their latter use of experiential teaching methods.

This article was written with the Teaching Education Journal in mind because of the journal's focus on transformative education opportunities for educators.

The fourth chapter is titled "Can Experiential Wilderness-based Professional Development Trainings Improve Positive Character and Professional Practices in Educators?" Chapter four addresses the following Objective:

1. Determine if the program can improve educators' positive character traits and professional practices.

This article was written for the Journal of Outdoor Recreation, Education, & Leadership because of the journal's focus on experiential learning practices, outdoor recreational programs, and participant outcomes.

The fifth chapter summarizes the findings from the previous three chapters and proposes future research opportunities.

Literature Review

Outdoor Recreation in the US

Outdoor recreation is among the United States' largest economic sectors estimated to contribute $887 billion in consumer spending and $65.3 billion in federal tax revenue annually (TORE, 2017). One type of outdoor recreation includes experiential wilderness-based (EWB) recreational activities such as mountaineering, backpacking, and white-water kayaking. These activities commonly occur in natural settings and are thought to include elements of challenge, risk, skill development, learning, and other rewards from participations (e.g. flow, solitude, mental restoration; Attarian, 2001; Holland et al., 2018). Each year, professional recreation organizations expose countless participants to recreational activities. For example, the Outward-Bound School alone exposes over 150,000 participants globally to a range of EWB recreational activities including rock-climbing, skiing, kayaking, and backpacking, among many others (WOB, 2019).

A more diverse population than ever is pursuing outdoor recreation in response to increased access to varying activities close to home, advances in technology (e.g. technical equipment, cell phones, gender neutral options, assistive equipment), and an increase in expendable time (Outdoor Foundation, 2017). Often times, participation is pursued via courses provided by professional EWB recreational organizations such as the Outward Bound School or the National Outdoor Leadership School (NOLS). Participation in EWB activities provided through these organizations has been associated with a vast range of beneficial outcomes (Holland et al., 2018). Among these beneficial

outcomes are increases in physical and mental health, self-awareness, a sense of place, forms of spiritual experiences, and an increased connection to the environment, among many others (Hattie et al., 1997; Holland et al., 2018; Thomsen, 2018). A review of literature examining published articles that associated outcomes with participation in EWB recreation activities found that between the years 2000-2016, 235 articles had linked psychological, social, and educational outcomes with participation (Holland et al., 2018). In response to the claims that participation in these forms of outdoor recreation can be so beneficial for participants, researchers have called for further investigation into the influential elements of these activities and programs that lead to participant outcomes (e.g., Cooley, Burns, & Cumming, 2015; Goldenberg, McAvoy & Klenosky, 2005; Korpela, Borodulin, & Neuvonen, 2014).

Research investigating the influence of specific programming elements of EWB recreational programs is limited. However, of the few studies that have investigated this question (e.g. Furman & Sibthorp, 2011; Goldenberg & Soule, 2015; Holland et al., 2018) three key elements are commonly identified as being influential towards participant outcomes. These elements include exposure to the wilderness environment (e.g. Daniel et al., 2010), the use of experiential learning methods (e.g. Gassner & Russell, 2008), and unique social interactions (e.g. Bell & Holmes, 2011).

The Influence of Being in Wilderness Settings

Throughout the history of EWB programming, the physical environment has been recognized as an irreplaceable contributor to participant outcomes (e.g. mental restoration, environmental connection, flow) due to its' restorative characteristics (e.g.

solitude, sound and audio-scapes, slow-paced movements, and elements of mystery) and tendency to positively interrupt patterns in one's behaviors thought to increased focus and engagement (Kaplan, 1995; Louv, 2008; Walsh & Golins, 1976). Other characteristics of wilderness environments commonly associated with influences in participants include increased perceptions of freedom, elevated curiosity, and opportunities for feelings of achievement (Martin et al., 2017). Additionally, wilderness settings have been credited to assist in participants' achieving a "flow" state, otherwise known as one performing or learning at an optimal performance level (Csikszentmihalyi, 1997; Shin, Yeoun, Yoo & Shin, 2010). Lastly, an increasing amount of evidence suggest that access to these natural environments provides humans with a wide range of emotional, cognitive, and physical benefits including reduced anxiety, reduced risk of obesity, and improved academic interest and performance, and many other beneficial outcomes (Holland et al., 2018; Kellert, 2005; Taylor & Kuo, 2006; Strife & Downey, 2009).

Experiential Education: Learning From Experiences

In addition to the influence of the wilderness environment, EWB recreation programs commonly integrate experiential education methods thought to contribute to many forms of participant development (Attarian, 2001; Roberts, 2012). Experiential education is a form of learning thought of as "learning from experiences or learning by doing" (Lewis & Williams, 1994, p. 5). In experiential learning, instruction is aimed at engaging students in direct experiences that are related to real world issues and situations (Seaman, Jayson, Brown & Quay, 2017). The focus of experiential learning is the process, not the outcome or product. Although learning content is valued, learning from

the process is a fundamental element of experiential learning (Hamer, 2000). Many EWB recreational organizations (e.g. OB, NOLS) emphasize experiential learning methods and follows Kolb's Experiential Learning Theory (2012).

The Experiential Learning Theory defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb & Kolb, 2012, p. 41). EWB recreational organizations' use experiential learning methods to ensure that participants can advance from their initial wilderness learning experience, into a new and even more challenging contexts (e.g. work or home), being able to apply their experience and make more cognitively advanced decisions. This process is portrayed as a learning cycle (Figure 1) in which learners engage in four learning modes; a concrete experience, reflection, abstract conceptualization, and experimentation and application (Kolb & Fry, 1974). EWB recreational programs' use of experiential learning methods have been associated with many beneficial outcomes for participants including increased self-awareness, the development of new perspectives (e.g. empathy), and an increased appreciation for experiential learning methods (Holland et al., 2018).

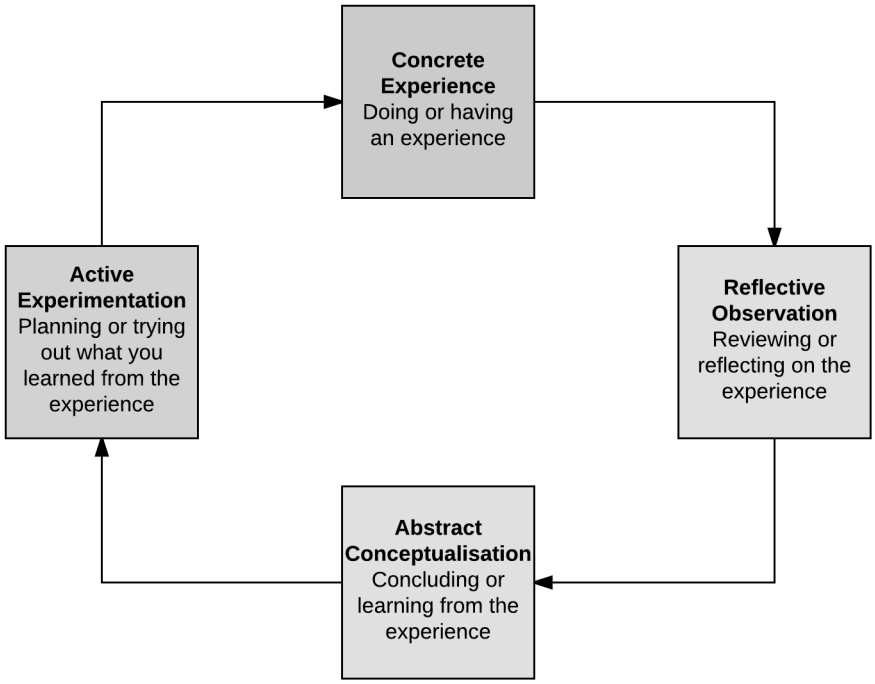

Figure 1.1: Kolb & Fry's (1974) Experiential Learning Cycle

The Influence of Prescribed Social Environments

EWB recreation programs commonly expose participants to unique social environments (e.g. small group numbers, challenging initiatives) thought to be influential towards participant outcomes (e.g. establishment of relationships, increased trust, increased self-confidence; Holland et al., 2018; Walsh and Golins, 1997). A common programming practice of EWB recreational organizations (e.g. OB, NOLS) is to assign varying leadership responsibilities within expedition groups. Participants are frequently asked to serve as leader of the day, navigator, or within another group leadership role. These responsibilities are intended to create dependency among group members, to break emotional barriers that may arrest open communication, and facilitate representation of

all members' strengths and limitations. Additionally, participants are exposed to emotionally and physically challenging learning initiatives that require collaboration among group members (e.g. Tyrolean traverse, wilderness navigation). Together, these unique social situations are intended to advance groups through the five stages of group development (*forming, storming, norming, performing,* and *adjourning*) as designed by Tuckman and Jensen (1977) in hopes of working as a high performing team. Additionally, these social environments aim to assist participants in reorganizes the meaning of their shared experience in hopes of transferring lessons learned into individual contexts of their lives (e.g. home, work; OB, 2018; Tuckman & Jensen, 1977).

The Outward Bound School's Educational Philosophy

Outward Bound (OB) is one example of a professional EWB recreational organization that exposes participants to experiential education methods and unique social situations within wilderness settings. OB is an international non-profit organization that has been developing and running adventure-based programs within the U.S. since 1962 and has been recognized as the most prestigious organization in the field of EWB recreational programming (Miner & Boldt, 2002). OB considers themselves an educational institution. In fact, OB refers to their field staff as instructors and their participants as students and has a well-established and studied educational approach, known as the Hahnian educational philosophy. This approach emphasizes positive psychology, experiential learning methods, and character and skill development in their students (Freeman, 2011). The educational processes programmed by OB have been associated with a vast range of participant outcomes including advancements in

participants' grit, self-reliance, demonstrations of craftsmanship, and increased academic performance, among many others (Hattie et al., 1997; Holland et al., 2018). Yet, even with a large research base demonstrating the effectiveness of OB's educational approach, there is a clear separation between these forms of educational practices and those of standardized K-12 education within the U.S.

The separation between educational approaches common to OB programs and those of traditional K-12 education within U.S. is complex and includes many challenges. At the national and state level, one challenge is the demand for educational reform (e.g. The No Child Left Behind Act of 2001) of the current accountability era in which schools are met with heavy standards of expectations including measurable progress objectives for all students, as well as identified groups of students (e.g. racial, language proficiency; Linn, Baker & Betebenner, 2002). Under the expectation of these progress objectives, schools and districts are held responsible for students' yearly progress and may face consequences (e.g. mandatory public-school choice, school restructuring, redirection of federal funds) if standards are not meet (Figlio & Getzler, 2006). The goal of these assessments is to provide accountability in regard to student and school expectations. However, often times these measures pull resources from subjects, lead to an increased emphasis on test performance, and do not support educational approaches emphasizing character development (Darling-Hammond, 2004).

Proponents of these standard-based accountability measures envision a process in which schools receive more resources, more intensive teacher preparation and professional development, and high-quality services for special needs students (Ajayi,

2016). However, every story has two sides. Opponents worry that an emphasis on testing as a measurement of school and student success may misrepresent the quality of teaching, resources, and school influence (Linn, 2000). A growing body of literature has identified unintended consequences of these accountability measures, claiming that high-stakes tests can emphasize lower-order thinking skills in students (Klein, Hamilton, McCaffrey & Stretcher, 2000), and further widen the current educational achievement gap (Darling-Hammond, 2004). Additionally, often times educators may react to these measures by "increasing class time spent on subjects and topics that are emphasized in the accountability exams, while decreasing class time on subjects and topics either not in or not emphasized in the exams" (Figlio & Getzler, 2006, p. 2). These measures do not support educators' use of positive psychology, experiential learning methods, and character and skill development in their students, all of which are key element of OB's educational approach.

Even with the presence of great challenges (e.g. progress objectives), OB's educational approach has been integrated within K-12 schools. One success story includes the development of Expeditionary Learning (EL) Schools. EL schools' "roots can be traced to the ideas of German-born educator Kurt Hahn, founder of Outward Bound wilderness programs" (Klien & Riordan, 2011 p. 37). Today, there are 150 EL schools in 30 states across America (Seider et al., 2018). EL schools utilize project-based learning expeditions to engage their students in content areas (ELEducation, 2014). These expeditions commonly take place in museums, community parks, or other safe learning environments outside of the school building, and are supported by educational research

indicating that students have demonstrated improvements in academic performance and other forms of personal development (e.g. engagement, self-reflection: Thomas, 2000).

Experiential Forms of Professional Development

One adaptation of OB's educational approach utilized by EL schools is experiential professional development (EPD) opportunities to support educators' learning and integration of experiential teaching techniques within their classrooms. These EPD opportunities have been supported by researchers for exposing educators to students' experiences of learning, establishing supportive communities among educators, increasing educators' use of reflective practices, and providing educators with strategies in which to utilize experiential teaching methods within their schools and classrooms (Klein & Riordan, 2011). While these EPD opportunities for educators demonstrate the potential power of OB's educational approaches within K-12 schools, they do not expose educators to immersive wilderness settings historically thought to be key in developing participants.

More recently, EWB programs have been implemented as a form of professional development for educators. These experiential wilderness-based professional development (EWBPD) programs emphasize experiential teaching methods and attempt to provide situations where educators simultaneously gain knowledge, apply skills, solve problems, and grow (NCOB Education Programs, 2017). EWBPD programs emphasize challenge, adventure activities, and hands-on participation (Norton & Watt, 2013). However, little is known about whether these EWBPD programs are effective as a continuing education program for educators.

Research Paradigm

This research utilized a post-positivist research paradigm.

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CHAPTER TWO

A MEANS-END ANALYSIS OF EXPERIENTIAL WILDERNESS-BASED PROFESSIONAL DEVELOPMENT'S INFLUENCE ON EDUCATORS' PERSONAL AND PROFESSIONAL DEVELOPMENT

Keywords: means-end analysis, outward bound, educators, professional development

Abstract

Experiential wilderness-based professional development programs are one type of non-traditional training for K-12 school educators. However, the influence of these programs towards educators' personal and professional outcomes has not been adequately evaluated. This study adapted a Means End Analysis technique to identify outcomes received by participating educators as well as the programmatic elements of an experiential wilderness-based professional development program most commonly associated with these outcomes. The findings indicate a range of personal (i.e. self-awareness, new perspectives, self-confidence) and professional (i.e. changes in classroom practices, appreciation for educational practices, improved classroom culture) outcomes. Additionally, exposure to the wilderness setting was identified as the most influential programmatic element to both personal and professional outcomes received by educators. Links between specific programming elements and each unique outcome are also discussed further. Results from this study may be used to further develop professional development for educators by incorporating novel experiences and an experiential education approach.

1. Introduction

Experiential wilderness-based professional development (EWBPD) programs are one type of continuing education that exposes school educators to challenge, adventure activities, and hands-on participation with the goal of increasing educators' personal and professional development (NCOB Education Programs, 2017). However, based on a systematic literature review of peer-reviewed articles published between 2000 and 2016, little research has investigated the efficacy of these forms of PD for school educators (Holland, Powell, Thomsen & Monz, 2018). Therefore, this research aims to identify the range of personal and professional outcomes and the programming elements that participants identified as influential by surveying participants in an EWBPD program offered by North Carolina Outward Bound.

1.1 Experiential Wilderness-based Continuing Education

Continuing education programs potentially provide beneficial outcomes for both teachers and their students (Darling-Hammond, 2008). One form of continuing education thought to provide positive outcomes to educators are experiential wilderness-based programs because of their physically challenging characteristics, exposure to nature, and "experiential" focus. In experiential learning, instruction is aimed at engaging participants (teachers, students, etc.) in directed experiences that are related to real world issues and situations (Seaman, Jayson, Brown & Quay, 2017). Although learning content is valued, learning from the process is a fundamental element of experiential learning (Hamer, 2000). Educational researchers have emphasized the power of experiential learning methods (e.g. developing learners' reflection, emphasizing process orientation,

and building abstractions aimed at transference, among others) stating traditional classroom-based learning methods may not always create lasting outcomes for learners due to their lack of engagement, collaborative learning opportunities, and enjoyment (Chan, 2012; Glazier & Bean, 2018). However, despite the apparent potential of EWBPD programs, their effectiveness has not been adequately documented (Klein & Riordan, 2011). Additionally, researchers have called for further investigation into the influence of specific programming elements on participants (Holland et al., 2018).

1.2 Utilizing the Means End Analysis Technique

For years researchers have sought to identify the programmatic elements that influence the delivery of beneficial outcomes to participants in outdoor recreational activities (e.g., Cooley, Burns, & Cumming, 2015; Goldenberg, McAvoy & Klenosky, 2005; Korpela, Borodulin, & Neuvonen, 2014). In experiential education literature, the Means-End Analysis (MEA) technique is commonly used as a method for identifying both outcomes resulting from a program and the influential programmatic elements that are associated with them (e.g., Goldenberg and Soule, 2014; Marsh and Bobilya, 2013; McAvoy, Holman, Goldenberg and Klenosky, 2006; Reynolds & Gutman, 1988; Voss, Gruber & Szmigin, 2007). The MEA technique was first introduced by Newell and Simon in 1961 with the term "means" referring to the treatment being studied, and "end" referring to the individual or organizational outcomes associated with this treatment; and can be utilized both qualitatively and quantitatively (Reynolds & Gutman, 1988; Voss, Gruber & Szmigin, 2007).

Using the MEA technique, this study aimed to accomplish two goals:

1. Identify educators' personal and professional outcomes associated with their participation in an EWBPD program.
2. Identify the influential programmatic elements educators associate with these outcomes.

2. Methods

2.1 Program Description

Outward Bound (OB) is a non-profit international professional wilderness-based educational organization that aims to foster growth in participants via challenging outdoor experiences. In the United States, OB has 11 locations including North Carolina Outward Bound (NCOB). NCOB provides an assortment of programs and expeditions lasting in duration from 1 to 65 days. The Educators Initiative (NCOBEI) is one type of program offered to educators (e. g. teachers, school counselors, social workers) and is focused on providing participants "with a thorough understanding of the Outward Bound expeditionary learning approach and to help them identify meaningful ways to integrate the approach into their own classrooms or teaching roles" (OB Handbook, 2016).

The NCOBEI program incorporates an experiential and place-based approach and includes four primary components: 1) an 8-day wilderness backpacking and climbing experience in which educators are immersed in an expeditionary style classroom exposing them to experientially based learning; 2) two 3-day follow-up retreats focused on sharing experiences, providing communal support regarding challenges, re-engaging in the experiential learning process, and maintaining communication amongst educators

from different schools; 3) an online resource library that assists educators in lesson development and provides them with examples of experiential practices; and 4), monthly phone calls in small groups that include the NCOBEI Education Director and a select group of educators from the participant's cohort. These phone calls focus on identifying challenges and opportunities integrating experiential teaching methods in their schools and seeks to further develop the learning communities.

During the wilderness phase of the program, it is thought that educators experience challenging, experientially-based, educational initiatives that give rise to skill development (Goldenberg & Soule, 2015), leadership traits (McKenzie, 2000), teamwork (Stott & Hall, 2003), and self-reliance (Bobilya, Kalisch, Daniel & Coulson, 2012), along with other associated outcomes of wilderness-based programs. Additionally, educators discuss how their experiences relate to the school context in hopes of transferring the lessons learned. Finally, the NCOBEI Education Director may visit educators based on availability and desire allowing the director to see first-hand how each educator's integration of experiential practices is unfolding and to provide continuing support.

The NCOBEI program has been running and attracting participants for 13+ years, yet little research has focused on the range of personal and professional outcomes associated with this type of PD for educators. Thus, the purpose of this study was to investigate these personal and professional outcomes, and to identify the relationship between these outcomes and specific programming elements of NCOBEI.

2.2 Instrument Development

Surveys were designed utilizing an adapted form of the Means End Analysis technique (Gutman, 1982). Open-ended questions were used to identify if, and how, these experiences influenced educators' personal, as well as professional development. Next, educators were asked to identify the top three most influential programmatic elements they attributed to the delivery of the outcomes they identified in the previous questions.

2.3 Sample and Data Collection

To investigate the personal and professional outcomes and influential programmatic elements we surveyed participants in the 2017/2018 NCOBEI 10-months following the wilderness exposure. We also surveyed alumni of the NCOBEI program that had participated between 2007-2016.

From the 2017/2018 cohort, 30 of 41 educators participated in the final 3-day retreat 10 months after the wilderness program; all of the attending educators completed surveys. To investigate more long-term perspectives regarding the impact of the program, we surveyed 248 alumni of the NCOBEI, years 2007-2016, were mailed a survey in January of 2018 with a stamped return envelope. We also emailed alumni with an invitation to participate in the study and provided a unique link to a web-based survey. Utilizing Dillman's (2004) total design method, emails were sent to all alumni in December of 2017 announcing the study, and again in January of 2018, when the surveys were distributed. We also posted an announcement on the NCOBEI Facebook page announcing the research opportunity approximately one month before the mailing/emailing date. Additionally, each week during the data collection period (for 2

months), Facebook posts and email reminders were sent to each alumnus to encourage further participation. An incentive was also included for all educators in hopes of increasing response rates. After eliminating undeliverable emails and physical addresses from our database, a total of 146 usable contacts were available for our sample. After completing subsequent follow-up procedures (Dillman, 2004), a total of 75 alumni surveys were completed, 6 paper surveys and 69 web-based surveys (response rate 51%).

Lastly, the primary researcher in this study participated in all programming elements during the 2017/2018 NCOBEI program (wilderness experiences, 3-day retreats, select follow-up emails and phone calls by the Director of Education). Observational data was collected during each element, via note taking and photos, to gain insight into the components of each element.

4. Analysis

4.1 Outcome Coding

We conducted a content analysis of educator responses to qualitative questions following recommendations by Neuendorf (2016). We coded and categorized all outcomes until we reached saturation (no new outcomes being identified). Second, we reviewed these outcomes in order to develop corresponding definitions and to establish clear guidance in coding. Third, two researchers coded a subsample of outcomes independently without knowledge of the other's assigned codes. Next, each researcher compared codes in order to identify areas of variation until consensus was reached. In qualitative analysis, two or more researchers commonly perform an independent analysis of the data similar to what was used in this study to increase the validity of the results

(Creswell, 2007). All outcomes were coded utilizing the agreed upon coding scheme. Observational notes where reviewed by two researchers and used to further support or refute our interpretation of the data.

5. Results

5.1 Personal Outcomes

Educators indicated a range of personal outcomes associated with the NCOBEI program. We coded 16 personal outcomes categories. Over 50% of educators in the 2017/2018 cohort indicated increases in their *self-awareness*, the development of *new perspectives*, an increased *self-confidence*, and the *establishment and strengthening of relationship* as a result of participation in the program. Thirty percent or more of alumni indicated increases in their *self-awareness*, the development of *new perspectives*, and an increased *self-confidence* as a result of participation in the program. Table 2.1 provides a summary of these personal outcome categories, their corresponding definition, operationalized examples, select educator quotes, and the frequency for each.

Table 2.1: Personal Outcome Categories (Listed in order of frequency).

Personal Outcomes	Definition	Operationalized Examples	Select Educator Quotes	Percent Indicated	
				A N=30	B N=75
Self-Awareness	Educators developed an increased ability to recognize their individual characteristics.	Learned about one's self; Increased understanding of one's long-term goals; Awareness of one's physical abilities	"*I have never been so physically and emotionally challenged, I became more aware of my physical and mental health and more aware of my capability to improve my health*"; "*this experience made me more aware of my personal life goals and I have recognized my strengths in obtaining these goals*".	66%	41%
New Perspectives	Educators developed a new or greater understanding and appreciation of the value of challenge.	Acceptance of failures; Acceptance of discomfort; Increased forgiveness towards one's self and others	"*I have a new perspective of challenge and taking risks*"; "*I am more open minded to making mistakes*" and "*I have an increased comfort in being vulnerable with others*".	53%	33%
Self-Confidence	Educators experienced an increased trust in their abilities.	Increased Courage**;** Increased Self-Image; Increased acceptance of challenges	"*I am more confident in my ability to take on challenges*"; "*Spending 8 days living in the wilderness made me more confident that I can take care of myself and be self-reliant*".	51%	30%
Established & Strengthened Relationships	Educators established greater, or a higher number of, positive relationships with others.	Established a social community; Increased confidence in existing relationships; Development of loyalty towards others	"*I have a greater relationship with those in my community including my wife, children, and colleagues at work"*; "*I have developed a greater loyalty to my friends"; "I formed new friendships during the Educators Initiative program that I still maintain*".	54%	19%
Social Intelligence	Educators developed an increased ability to collaborate with others.	Increased awareness of other's behaviors; Increased awareness of diverse perspectives; Improved collaboration skills	"*I am more aware of other's feelings and behaviors*"; "*I developed empathy and an increased patience for others*"; "*I have a greater compassion for others*"; "*I am more aware of the differences in others*".	26%	16%
Goal Setting	Educators identified, designed, and/or initiated personal goals.	Desire to improve one's health; Desire to try new things; Desire to advance personal skills	"*I set goals aimed at advancing my personal growth such as increasing my physical activity and completing daily reflective writings*"; "*I set new personal goals and stuck to them*!".	18%	5%
Outdoor Recreation Interests and Skills	Educators advanced their backcountry abilities and/or became invested in outdoor recreational activities.	Increased skill in outdoor recreational activities; Joined a rock-climbing club	"*I wanted to become a rock climber*!"; "*I developed new outdoor skills and confidence to be in the wilderness*"; "*I went hiking more*"; "*I got into camping and backpacking*".	16%	8%

Table 2.1: Personal Outcome Categories (Listed in order of frequency) Continued.

Personal Outcomes	Definition	Operationalized Examples	Select Educator Quotes	Percent Indicated	
				A N=30	B N=75
Physical Health	Educators experienced growth in their ability to participate in physical activities.	Increased energy; Increased physical strength; Increased knowledge of recreational opportunities	"*I became more physically activity and cared more about my physical health*"; "*I became motivated to become physically stronger*"; "*I had an increased surplus of energy*".	16%	2%
Connection with Nature	Educators developed behaviors and/or attitudes associated with environmental stewardship.	Increased value in natural environments; Recommitment to nature; Desire to protect nature	"*I reconnected to the natural world*"; "*I received an increased appreciation for the environment*"; "*I became invested in the Linville and Table Rock Wilderness*"	12%	3%
Development of Reflective Practices	Educators integrated self-assessments regarding their personal time.	Increased use of mindfulness techniques; Increased use of self-reflection techniques	"*I participated in frequent self-reflections at home*"; "*I incorporated the taking off the mask practice into my parenting and had my children reflect on things that we did at home*".	12%	6%
Renewal	Educators felt restored and/or enjoyment.	Happiness; Mental rejuvenation; Decreased stress	"*I felt mentally rejuvenated*"; *I had a renewed mindset*"; "*I felt healed and refreshed*" and "*I had a sense of renewal*".	12%	0%
Improved Personal Care	Educators took measures to take greater care of their own physical and emotional needs.	Increased empathy towards one's self; Increased time taken for one's self; Using exercises to decrease one's stress	"*This program caused me to slow down and to take care of my personal needs as a mother*"; "*I increased time taken for myself*".	8%	2%
Perseverance	Educators advanced their ability to remain steadfast despite experiencing challenges.	Increased ability to bounce back from failures; Decreased concern with set backs	"*I was better able to bounce back from off sets in my career and personal life*"; "*I increased in my GRIT and began setting more short and long term goals for myself*".	6%	2%
Craftsmanship	Educators developed greater value in demonstrating skill and individual investment in their work.	Increased attention to details; Increased personal investment in one's work	"*I had a greater appreciation for demonstrating artistry in my hobbies*"; "*I became more meticulous about how I liked things to be done and did not allow responsibilities to be completed with poor quality*".	4%	2%
Leadership Skills	Educators increased in their group supervision and facilitation abilities.	Increased communication skills; Increased confidence managing groups; Increased awareness of leadership styles	"*I developed new collaborative leadership skills that I use at home and at work*"; "*I became a stronger and more outspoken leader*".	4%	2%
Development of New Hobbies	Educators pursued a new leisure or recreational activity.	Picked up backpacking; Joined a yoga class; Hiking daily	"*I wanted to become a backpacker";* "*I decided to pick up a few new hobbies including rock climbing and hiking*".	3%	2%

A=2017/2018 Cohort; B=Alumni

5.2 **Professional Outcomes**

Educator responses also indicated a range of professional outcomes that educators associated with the NCOBEI program. We coded 10 professional outcome categories. Over 50% of educators in the 2017/2018 cohort indicated *changes in classroom practices*, an *increased confidence in teaching abilities*, and an *increased reflection on teaching practices* resulting from participation in the program. Forty eight percent or more alumni indicated an increased *appreciation for experiential educational practices* and *changes in classroom practices* resulting from participation in the program. Table 2.2 provides a summary of these 10 professional outcome categories, their corresponding definition, operationalized examples, select educator quotes, and the frequency for each.

Table 2.2: Professional Outcome Categories (Listed in order of frequency).

Professional Outcomes	Definition	Operationalized Examples	Select Educator Quotes	Percent Indicated	
				A N=30	B N=75
Changes in Classroom Practices	Educators manipulated the methods or social norms they integrate in their school classroom.	Integrated student-led learning; Integrated reflective practices; Integrated challenge-by-choice; Integrated crew-based leadership roles; Integrated mindfulness initiatives; Increased shared power with students;	"*I now integrate student led learning in my classroom*"; "*I have increased the amount of time I allocate towards establishing group norms and a strong learning community in my classroom*"; "*I incorporated learning initiatives from the program into my classroom*".	92%	53%
Increased Confidence in Teaching Abilities	Educators gained self-assurance in their professional teaching capabilities.	Increased confidence to teach new subjects; Confirmation in current teaching practices and ability; Increased confidence in the impact of my teaching	"*I have an increased confidence in attempting to teach in new subject areas*"; *This program reinforced my confidence in my educational beliefs and practices*"; "*I am more confident in the outcomes of my teaching*".	76%	13%
Appreciation of Experiential Educational Practices	Educators developed greater, or a new form of, appreciation for experiential forms of teaching and/or learning process.	Increased value in exposing students to challenge; Increased value in experiential teaching methods; Increased value in students demonstrating craftsmanship, compassion, and perseverance; Increased value in the process of learning instead of the outcome	"*I have an increased value in listening to student's needs*"; "*My appreciation for challenge and student's development of perseverance has increased*"; "*I have an increased acceptance of failure*"; "*I have a new appreciation of experiential teaching practices*".	29%	48%
Increased Reflection on Teaching Practices	Educators participated in deliberative assessments of their own teaching.	Increased reflection on lesson plans, student assessments, and classroom management	"*I have incorporated daily quiet times in order to reflect on my teaching practices*"; "*I have begun working with other teachers during my lesson planning period to reflect on the content I deliver*".	58%	5%
Improved Classroom Culture	Educators experienced an improved learning environment in their school classroom.	Increased student engagement; Improved student-to-student relationships; Established safer learning environments; Increased student investment	"*My classrooms are more fun and adventurous*"; "*I facilitate a safer learning environment*"; "*my classes celebrate adversity and challenge*".	23%	12%

Table 2.2: Professional Outcome Categories (Listed in order of frequency) Continued.

Professional Outcomes	Definition	Operationalized Examples	Select Educator Quotes	Percent Indicated	
				A N=30	B N=75
New Leadership Roles at School	Educators took on new or advanced professional responsibilities in their school.	Began a new experiential program for students and/or educators; Took on additional projects at school; Sought additional responsibilities	"*I started a new experiential based program at my school for both students and teachers*"; "*I sought after new challenging opportunities in my school*"; "*I designed opportunities for other educators to learn about experiential teaching approaches*".	18%	9%
Awareness of Student Experiences	Educators obtained a greater understanding of student perspectives, challenges, and learning processes.	Great awareness of student perspectives; Increased empathy towards students; Experienced what being a student feels like; Experienced humility in the learning process	"*I have a greater awareness of what it is like to fear asking for help*"; "*I experienced humility in the learning process*"; "*I became more empathetic toward the challenges students experience*".	15%	8%
Improved Attitude Concerning Teaching Profession	Educators experienced positive, or improved their previous, inclinations concerning being a school educator.	Reenergized to be an educator; Recharged desire to improve teaching ability; Increased inspiration to teach youth	"*I am reenergized to be an educator*"; "*I have an increased desire to improve as a teacher*"; "*I received new inspiration and motivation to be an educator*".	12%	7%
Strengthened Relationships with Colleagues	Educators established greater, or a higher number of, positive relationships with their fellow educators and/or school administration.	Increased collaboration; Established professional connections; Improved communication with other educators; Increased feelings of support	"*I established new professional networks*"; "*I have increased collaboration with both my colleagues and administration in my school*".	9%	7%
Strengthened Relationships with Students	Educators established greater, or a higher number of, positive relationships with their students.	Increased interactions with students; Greater ability to connect; Improved relationships	"*I have noticed increased positive interactions with my students*"; "*My students enjoyed hearing about the challenges I went through, and share their own challenges with me*".	5%	3%

A=2017/2018 Cohort; B=Alumni

5.3 **Relationship Between Outcomes Received and Programmatic Elements**

Educators identified 11 influential programmatic elements associated with outcomes. Seventy six percent or more educators associated personal outcomes with continued support, fellow participants, and being in the wilderness. Fifty one percent or more educators associated professional outcomes with wilderness activities, continued support, fellow participants, and being in the wilderness. Table 2.3 provides each of the 11 elements, observed characteristics of each, and the frequency each element was associated with personal and professional outcomes.

Table 2.3: Programmatic Elements Identified as Influencing Personal and Professional Outcomes (Listed in order of Frequency)

Influential Programmatic Element	Observed Characteristics	Percent Indicated	
		Personal	Professional
Being in the Wilderness	Educators were immersed in a unique learning environment incorporating physically and emotionally challenging group activities that elevated participants' curiosity to learn and to identify ways to transfer their learning.	98%	98%
Fellow Participants	Includes fellow educators in each participant's wilderness cohort who shared the same group challenges and successes.	86%	79%
Continued Support	Includes optional follow-up phone calls, emails, and school visits with the Education Director one-on-one or with a small group of educators; two 3-day retreats for educators to re-engage with other educators from their wilderness experience and to share their successes and challenges integrating experiential teaching methods in their schools and classrooms; and, a private NCOBEI Facebook page for all current and past participants to share news articles, pictures from their wilderness expedition, and to ask questions regarding integrating experiential teaching methods in their schools.	76%	90%
Wilderness Adventure Activities	Includes a day-long rock-climbing experience, a Tyrolean-traverse, and an 80 ft. hanging rappel.	46%	51%
Emphasis on OB Four Pillars of Operations	Includes self-reliance, physical fitness, craftsmanship, and compassion. Educators were encouraged to develop in each of these areas and to generalize each in other contexts of their lives.	43%	27%
Wilderness Instructors	Wilderness instructors demonstrated experience and knowledge in facilitating experiential teaching methods (e.g. allowing participants to experience failure, relinquishing power to the group, and expecting craftsmanship in participants' work) and facilitated participants experiencing the student role.	28%	27%
Crew Leadership Roles	Includes facilitated opportunities for individuals to take on additional responsibilities (e.g. leader of the day, navigator, camp manager).	13%	22%
Participating with Colleagues From My School	Educators were recruited in pairs of two from their schools. This allowed participants to discuss the logistics of transferring experiential teaching methods (e.g. resources and personal experiences held in their schools) during the program.	10%	12%
Educational Resources	Includes a course manual, examples of experiential teaching lessons and work completed by students, literature on the Theory of Experiential Learning (Dewey, 1938; Kolb, 1984) and the history of OB (e.g. Kurt Hahn, Aberdovey School).	0%	21%
Ropes Course	A day-long high and low-ropes course activity on OB's basecamp. Select educators participated in this activity.	10%	4%
Recognition of Course Completion	Forms of recognition included a dinner banquet with all participating educators and NCOB staff, a small group debrief, and distribution of OB Pins (recognition of one's demonstrations of goal achievement and development).	5%	0%

**Includes all educators*

Figure 2.1 illustrates the relationship between specific programmatic elements of the NCOBEI and professional and personal outcomes received by educators. In the center of the figure, programmatic elements of the NCOBEI are represented in squares. On the top are professional, and on the bottom are personal, outcome categories indicated by educator responses. The lines connecting the program elements to outcomes indicate the strength of the relationship (bolder lines represent associations made most frequently; See figure 2.1 on page 48).

5.3a Relationship Between Outcomes and Influential Programmatic Elements

Being exposed to the wilderness environment was the most frequently cited influential programmatic element linked with personal and professional outcomes (Table 2.3). Regarding personal outcomes, educators indicated that being in the wilderness environment was physically and emotionally challenging and consequently facilitated their increased engagement and mindfulness in the training, provided a sense of solitude, and decreased outside distractions (e.g. cell phone, email, work responsibilities). The top three personal outcome categories associated with the wilderness experience were *Self-Awareness* (indicated by 46% of educators), *New Perspectives* (indicated by 39% of educators), and increased *Self-Confidence* (indicated by 34% of educators). Regarding professional outcomes, educators indicated that the challenges they experienced in the wilderness environment consequently exposed them to struggles students experience in the classroom, increased their knowledge and confidence regarding experiential teaching methods, and facilitated their reflection on their teaching practices, among others. The top three professional outcome categories associated with the wilderness experience were

Changes in Classroom Practices outcomes (indicated by 58% of educators), *Value in Educational Practices* outcomes (indicated by 48% of educators), and *Reflection on Teaching Practices* outcomes (indicated by 30% of educators).

Fellow participants were the second most frequently cited programmatic element linked with personal outcomes and the third most frequently cited element linked with professional outcomes (Table 2.3). Regarding personal outcomes, educators indicated that fellow participants provided support through challenges experienced while in the wilderness and assisted with reflection on, and generalizations of, learning to outside areas of life (e.g. home, relationships, church). *Self-Awareness* (indicated by 44% of educators), *Self-Confidence* (indicated by 30% of educators), and *Establishment and Strengthened Relationships* (indicated by 27% of educators) were most associated with interactions with fellow participants. Regarding professional outcomes, educators indicated that fellow participants assisted via sharing teaching resources obtained (e.g. lesson structures, student work, online resources), providing a means to evaluate their progress integrating the training in their schools, and providing forms of affirmations. The top three professional outcome categories associated with fellow participants were *Changes in Classroom Practices* outcomes (indicated by 31% of educators), *Value in Educational Practices* outcomes (indicated by 27% of educators), and *Confidence in Teaching Abilities* outcomes (indicated by 17% of educators). The frequency of outcomes and programmatic elements indicated does not equal the number of participating educators because each educator indicated more than one professional and personal outcome. All outcomes indicated were included in this study.

Forms of continued support were the third most frequently associated programmatic elements linked with personal and the second most frequently associated with professional outcomes (Table 2.3). Regarding personal outcomes, educators indicated that continued support provided opportunities to reengage in social relationships established, to re-live goals achieved, and to follow-up on promises made, during the wilderness experience. The top three personal outcome categories associated with the forms of continued support were *Self-Awareness* outcomes (indicated by 45% of educators), *Self-Confidence* outcomes (indicated by 29% of educators), and *New Perspectives* outcomes (indicated by 25% of educators). Regarding professional outcomes, educators indicated that continued forms of support provided opportunities to share successes and challenges experienced integrating experiential teaching methods in their classrooms, to re-engage in an experiential learning environment, and to gain additional training regarding the value in, and integration of, experiential teaching methods. The top three professional outcome categories associated with the continued support were *Changes in Classroom Practices* outcomes (indicated by 41% of educators), *Value in Educational Practices* outcomes (indicated by 27% of educators), and *Confidence in Teaching Abilities* outcomes (indicated by 9% educators).

6. Discussion

Our study identified the range of personal and professional outcomes received by educators participating in an EWBPD program and the influential programmatic elements associated with these outcomes.

6.1 ***EWBPD's Influence on Personal Outcomes***

Educators most frequently indicated that the program was powerful in influencing their self-awareness (Table 2.1). Increases in OB participants' self-awareness have been identified in the existing literature associated with elements of these wilderness-based recreational programs (McKenzie & University, 2003). The challenging nature of these wilderness experiences (being disconnected from technology, participating in facilitated reflective initiatives, and being exposed to one's physical and emotional limits, etc.) is commonly thought to increase participants' self-awareness (Bobilya & Faircloth, 2017). Educators in our study demonstrated advances in their self-awareness by stating that they received an increased awareness of their capabilities, their physical health, and their personal life goals due to the challenges they were exposed to in the wilderness environment.

In addition to self-awareness, educators also frequently indicated the development of new perspectives (Table 2.1). A systematic review conducted on the outcomes attributed to participation in wildland recreational activities found that participation in programs provided by wilderness-based recreational organizations (e.g. Outward Bound) was commonly associated with participants developing new perspectives regarding acceptance of diversity, increased appreciation of daily comforts (e.g. cell phones,

showers, meals), among others (Holland, Powell, Thomsen & Monz, 2018). Educators in the NCOBEI reported that being in the wilderness (solitude, challenge, being group dependent) and forms of continued support (opportunities to re-live successes accomplished, to discuss challenges faced, and to share ideas) influenced their acceptance of challenge, forgiveness towards themselves, and their comfort being vulnerable towards others, among other forms of new perspectives.

The third most frequently reported personal outcome was an increase in educators' self-confidence (Table 2.1). Similar to self-awareness and new perspectives, existing research has associated increases in participants' self-confidence resulting from participation in experiential wilderness-based programing (Bettman et al., 2018; Walsh & Golins, 1976). However, use of these programs as a form of PD for educators has not been adequately studied to identify their influence towards educators' self-confidence until now. Participants in our study indicated that overcoming challenges faced during the wilderness experience, receiving affirmations from fellow educators, and successfully taking on group leadership roles positively influenced their self-confidence via establishing self-trust, increasing self-image, and overcoming fears.

6.2 ***EWBPD's Influence on Professional Outcomes***

In addition to personal outcomes, educators received a number of professional outcomes (Table 2.2) as a result of their participation in the EWBPD program. Educators most frequently indicated changes in their classroom practices associated with participation. Educational research has associated changes in educators' classroom practices with positive PD experiences for years (Guskey, 2002). Our study adds to this

literature by linking EWBPD to similar changes in classroom practices. Educators in this study indicated that being immersed in an 8-day experiential wilderness-based classroom, and having the support of their fellow participants in identifying ways to transfer the wilderness experience back into their classrooms, assisted in their ability make changes in their classroom practices (Table 2.2). These findings suggest that EWBPD can be a successful in influencing educators' classroom practices.

In addition to changes in classroom practices, educators frequently indicated an increased confidence in their teaching abilities as a result of their participation in the program (Table 2.2). As with research on classroom practices, research has indicated increases in educators' confidence in their quality of teaching as a result of exposure to PD opportunities (e.g. Van Aalderen-Smeets & Walma Van Der Molen, 2015). Our findings contribute to this literature via linking EWBPD with educators' increased confidence in their teaching abilities. Educators in this study indicated that being exposed to the wilderness environment as an experiential classroom and having the opportunity to gain knowledge and experience regarding experiential teaching methods during the forms of continued support (retreats, phone calls, emails, and school visits) positively influenced their confidence in teaching new subjects, affirmed practices they already implemented, and increased their confidence in the impact of their teaching.

Educators commonly indicated increases in reflection on their teaching practices as a professional outcome (Table 2.2) of the program stating that being immersed in the wilderness provided many challenging learning opportunities supported by group and individual reflections on the learning. These experiences consequently advanced

educators' comfort and knowledge of reflective practices and increased their time taken outside of work to reflect on the efficacy of assignments and lessons used in the classroom, how they evaluate student performance, their use of technology in the classroom, and willingness to allow for, and to celebrate, students' failure. Previous literature has associated participation in experiential PD with increases in educators' use of reflective practices (Girvan, Connelly & Tangney, 2016). Our findings contribute to this research by introducing EWBPD opportunities and their influence on educators' reflection of teaching practices.

6.3 ***The Relationship Between Personal and Professional Outcomes***

Many of the personal outcomes received by educators (e.g. increases in social intelligence, leadership skills, goal setting, self-confidence, and the establishment and strengthening of relationships, among others) compliment professional outcomes. Human development and educational research have emphasized the importance of PD for educators providing not only professional outcomes but also focusing on educators' need for personal advancements (Choi & Ruona, 2011; Desplaces, 2005). These researchers emphasize that if changes are desired at the organizational level (e.g. school) then investment in further developing educators both professionally (skills) and personally is necessary. EWBPD may serve as an ideal means in which to provide K-12 educators with skills and attributes that build the individual and thus support organizational-level transformational changes.

6.4 ***The Influence of Programmatic Elements***

Educators indicated that exposure to the wilderness environment was a greatly influential aspect of the experience on both personal and professional outcomes (Table 2.3). This finding emphasizes the beneficial characteristics of exposing educators to natural environments. Wilderness settings have been previously identified as contributing to a range of individual development outcomes (e.g. mental restoration, environmental connection, flow) due to their restorative characteristics (e.g. solitude, sound and audio-scapes, slow-paced movements), elements of mystery, and tendency to positively interrupt patterns in one's behaviors thought to increased focus and engagement (Kaplan & Kaplan, 1983; Louv, 2008; Szolosi et al., 2014). Educators in our study indicated that although the wilderness environment positively influenced their personal and professional development, this influence occurred in different ways. Personal development outcomes were commonly associated with elements of challenge, the need to be self-reliant, and to demonstrate perseverance while in the wilderness. Professional development outcomes were commonly associated with being group-dependent (e.g. carrying group gear, sharing shelters, maintaining group moral), accomplishing individual and group goals, and sharing rewarding experiences while in the wilderness. These findings demonstrate the unique influence of wilderness environments on personal and professional forms of development for participants, and emphasize the need for further research investigating the influence of wilderness settings on participants' personal and professional outcomes.

Educators indicated that fellow participants were among the most influential programmatic elements associated with personal and professional outcomes (Table 2.3). Previous literature has indicated outcomes for participants associated with social relationships and experiences held with fellow participants in wilderness-based programs (Jostad et al., 2013). These outcomes include increased trust, improved communication skills, team work, and goal achievement, among others (Jostad, 2013; Marsh & Bobilya, 2013; Whittington & Budbill, 2013). Educators in our study indicated that fellow participants influenced their personal development by assisting with their ability to progress through challenges, providing affirmations of educators' progress, and assisting with their reflection on experiences held and lessons learned. Regarding professional development, educators indicated that fellow participants shared advice and resources regarding integrating experiential teaching methods in their schools, discussed ways to generalize experiences held while in the wilderness in new contexts, and supported educators' experimentation of lessons learned.

Forms of continued support were also identified among the most influential programmatic elements associated with personal and professional outcomes (Table 2.3). These EWBPD elements are unique in that traditional PD and experiential wilderness-based programs commonly meet face-to-face with the participant only one time (Roberts, 2012). Educational researchers have emphasized the importance of continued forms of support (i.e. mentorships, colleagues who share the same goals, follow-up check ins) in educators transferring training back in the school contexts (Thessin, 2015). Our findings support this literature and demonstrates the unique influence of continued support on

educators' personal and professional development. Educators in our study indicated that these forms of continued support (e.g. 3-days retreats, phone calls, emails, school visits) influenced their personal development by emphasizing the importance of maintaining formed relationships, encouraging educators to continue reflecting on successes and challenges held during the wilderness experience, and by supporting educators in taking on new challenges (e.g. physical tasks, new hobbies, improving relationships). Educators also indicated that continue forms of support influenced their professional development via assisting in their integration of changes in their classroom practices, providing needed guidance and accountability that increased their confidence in their teaching abilities, and encouraging them to maintain reflection on their teaching practices.

6.5 ***Implication of this Work***

The results from this study emphasize a call for continued support of EWBPD opportunities for K-12 educator and other school stakeholders. Our findings broadly identify the power of non-traditional PD program in influencing educators' personal and professional development. Further use of these trainings should be integrated for students, school administrators, and other stakeholders of schools' success. Exposing additional stakeholders to this form of PD may increase the efficacy of participants successfully transferring experiential teaching methods in their schools and may cultivate an improved school-wide experiential learning culture.

The wilderness components' influence towards educators' personal and professional development supports the further use of this type of PD for educators. Additionally, adapted forms of experiential PD that incorporate novel physically and

emotionally challenging learning experiences should be tested. Many professional wilderness-based organizations have adapted characteristics of the wilderness setting in urban contexts (e.g. high ropes courses, artificial rivers and ski-slopes) in hopes of providing the same feelings of discomfort, challenge, and group dependence while influencing participants who may be less likely to participate in wilderness settings. Further efforts should be allocated towards providing novel experiences in experiential PD opportunities for educators in both wilderness and non-wilderness settings.

Lastly, many wilderness-based organizations (e.g. adventure-based programs, wilderness camps) utilize experiential learning methods and outdoor recreational activities in their programs in hopes of advancing participant outcomes. The findings from our study highlight the need for further experiential programming designed to advance participants' professional development outcomes. These programs should utilize diverse recreational activities (e.g. white-water rafting, caving, canyoneering), range in duration and skill-levels, and incorporate the principles of practicing experiential education as identified by the Association of Experiential Education.

7. Conclusion

This study successfully adapted the Means-end Analysis approach to investigate the personal and professional outcomes for K-12 educators associated with participation in an EWBPD program. Additionally, we identified specific influential elements of the program.

The results indicate that educators received a wide range of both personal and professional outcomes as a result of participating in EWBPD programs. Additionally,

results indicated that specific elements of the program influenced particular outcome in unique ways. Exposure to the wilderness setting held the greatest influence of all programming elements towards educators' personal and professional development. For years, researchers have indicated a need to further investigate not only the outcomes of participation in wilderness-based experiential programming but also the programmatic element associated with these outcomes (Goldenberg & Soule, 2015). By investigating the impact of EWBPD programs for K-12 educators, researchers and programmers alike, we can greater ascertain the value and influence of specific program attributes in order to improve the quality of PD opportunities for educators and ultimately influence the success of students.

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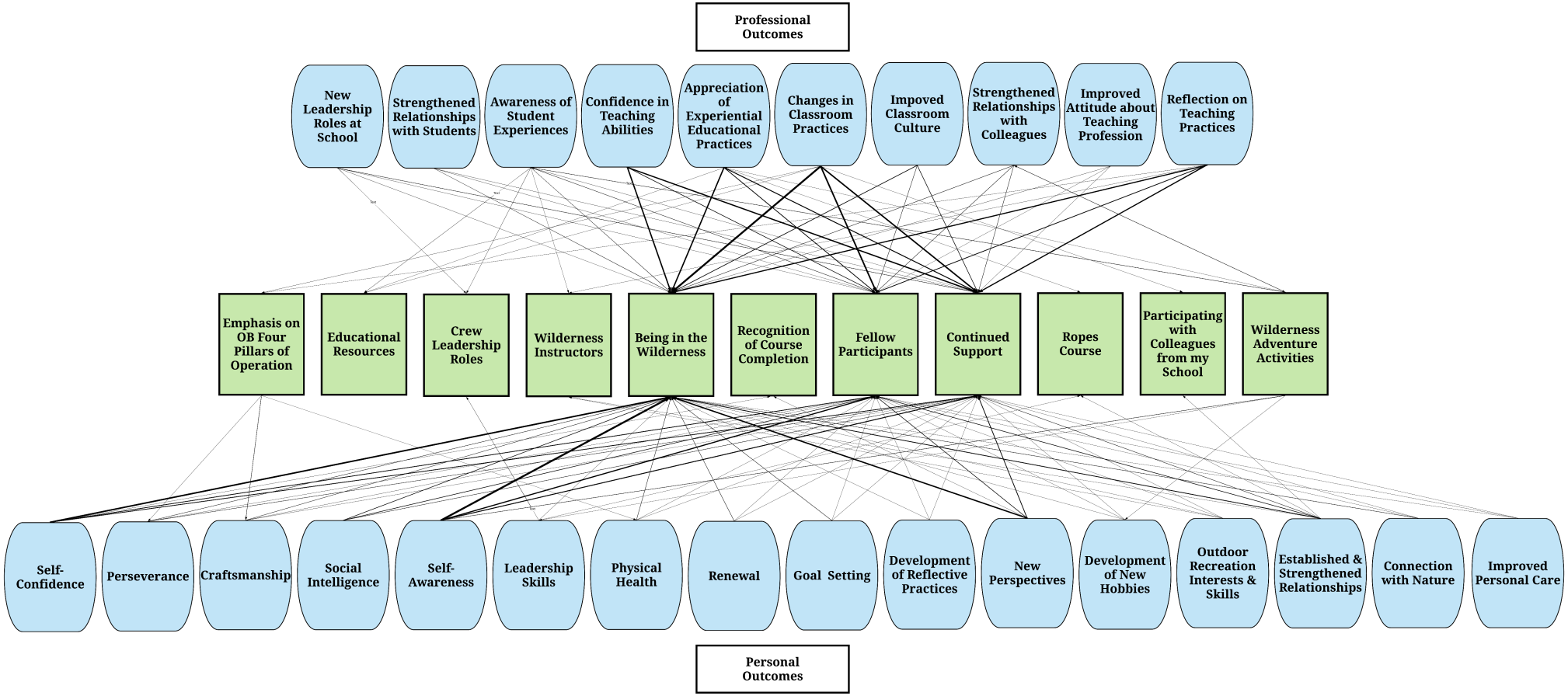
Figure 2.1: Relationship Between Programmatic Elements and Associated Outcomes.



*Includes 10-month and Alumni data

CHAPTER THREE

UNDERSTANDING BELIEFS AND CONFIDENCE OF EDUCATORS PARTICIPATING IN EXPERIENTIAL WILDERNESS-BASED PROFESSIONAL DEVELOPMENT

Keywords: experiential education, outward bound, predictor, professional development, wilderness

Abstract

Continuing education programs for teachers have the potential to provide beneficial outcomes for both participants and their students. Experiential wilderness-based programs are a unique form of continuing education because of their use of wilderness-based learning environments, outdoor-recreation activities, and experiential teaching initiatives. Research examining the influence of experiential wilderness programs on a range of outcomes (e. g. adjustments in behavioral conduct, pro-environmental behaviors, increased classroom culture) is well documented. However, there is little research focused on the use of these type of programs for professional development for educators. Therefore, this research investigated North Carolina Outward Bound Educators' Initiative (NCOBEI) to examine if the program improved educators' beliefs regarding the importance of, and their confidence in, integrating experiential teaching methods in the classroom. Additionally, we investigated if educators' beliefs and confidence could successfully predict their future use of experiential teaching methods in their schools. The findings indicate that participation in the experiential wilderness-based training positively influenced educators' beliefs regarding the importance of integrating experiential teaching methods and their confidence in using these techniques immediately following the program. However, the findings also indicate

that this influence fades over time. Contrary to our assumptions, beliefs and confidence were not found to predict educators' later use of these methods. Experiential wilderness-based trainings that consider school climate and that provide continued follow-up may hold the greatest potential for supporting educator's success in training transfer.

1. Introduction

Continuing education programs are increasingly important in ensuring that educators have the tools and knowledge needed to prepare students to succeed both in school and society (Stewart, 2014). For educators, continuing education programs include a wide range of specialized trainings, formal education programs, and professional courses intended to help educators improve their professional skills and effectiveness (Korthagen, Loughran & Russell, 2006). Continuing professional development (PD) of educators is thought to be effective in providing a range of potential positive outcomes including increased confidence, enthusiasm for collaborative working, and an enhanced self-efficacy, among others (Cordingley, Bell, Thomason, & Firth, 2005).

Experiential wilderness-based programs are one form of PD provided for educators. These PD programs utilize challenging adventure activities in natural settings and are intended to assist educators in developing new skills that can be transferred to the classroom (Norton & Watt, 2013). Experiential wilderness-based PD (EWBPD) programs attempt to provide situations where educators simultaneously gain knowledge, develop and apply skills, and solve problems (NCOB Education Programs, 2017). These programs utilize wilderness settings to challenge educators and provide experiences that foster growth as both individuals and professionals. However, few studies have focused

on evaluating the impact of these EWBPD programs on educators' professional and personal outcomes (e.g. O'Sullivan, Anderson & Richard, 2008). Additional research is needed in order to fully understand the potential impact of EWBPD programs.

Success of educator PD programs has been measured in various ways including participant satisfaction (Downer, Kraft-Sayer & Pianta, 2009), content retention (Baker, 2010), intentions to utilize content (Van Duzor, 2011), and ability to transfer training materials into their work (Reeves, Boet, Zierler & Kitto, 2015). Through these studies, researchers have suggested that the learner's belief in the importance of, and confidence in, performing training content influences their ability to successfully transfer training to new contexts (Burke & Hutchins, 2007; Massenberg, Spurk & Kauffeld, 2015). Therefore, understanding the potential role EWBPD programs play in enhancing educators' belief in the importance of, and confidence in, integrating experiential teaching methods in their school settings can provide valuable information that can be used to improve PD opportunities for educators.

The present study addresses these gaps by focusing on the following questions:

1. Can an EWBPD program be effective in enhancing educators' belief in the importance of, and confidence in, integrating experiential teaching methods in their school contexts? If so, does this influence change over time?
2. Can educators' beliefs and confidence regarding integrating experiential methods in their schools predict their future use of these methods?

2. Literature Review

2.1 Continuing Education and Professional Development for Educators

Continuing education courses are a common professional development (PD) tool to help educators enhance their professional skills, classroom instruction, and above all else to improve student achievement (Day & Sachs, 2005). For years, researchers have emphasized the importance of developing qualified and effective educators in response to the challenges faced by schools, and many researchers suggest that continuing education is the best way to improve educator performance (e.g. Epstein, 2018; Garet et al., 2001; Hirsch, 2001). However, despite the assumption that continuing education programs improve educators' performance, the characteristics of these programs vary immensely and there is little research that evaluates their efficacy (Guskey & Yoon, 2009).

2.2 Experiential Learning

Experiential learning theory (ELT; Kolb, 2014; Kolb & Kolb, 2009) can be used to understand the utility of professional development programs for teachers and is one way to conceptualize how educators might advance in their utilization of experiential teaching methods through PD experiences. ELT "recognizes that learning is a process; it involves the testing and refinement of prior beliefs and ideas, includes reflections, actions, feelings, and behaviors; it is influenced by the relationship between a person and their environment; and it involves the construction of new knowledge" (Garst, Gagnon & Brawley, 2019, p. 5). Experiential learning emphasizes the notion of constructivism in which learners actively build knowledge and skills (Dewey, 1938;1968). In experiential learning, instruction is aimed at engaging participants (teachers, students, etc.) in directed

experiences that are related to real world issues and situations (Seaman, Jayson, Brown & Quay, 2017). Although learning content is valued, learning from the process is a fundamental element of experiential learning (Hamer, 2000). Educational researchers have emphasized the power of experiential learning methods (e.g. developing learners' reflection, emphasizing process orientation, and building abstractions aimed at transference, among others) stating traditional classroom-based teaching methods may not always create lasting learning due to their passive characteristics (Glazier & Bean, 2018).

The Association of Experiential Education (AEE) provides a list of experiential teaching practices guided by the Experiential Learning Theory (Kolb, 2009; 2014) and research (e.g., Burke, Lawrence, El-Sayed & Apple, 2009; Wurdinger & Allison, 2017) that include carefully choosing experiences, actively facilitating the development of questions and solving problems, supporting reflection and analysis, and engaging learners in relationship-building and unpredictable learning situations, among others (AEE.org, 2018).

2.3 Experiential Professional Development

Research examining the use of experiential learning methods in PD contexts suggests the potential for delivering positive outcomes including increased content knowledge, the development of instructional methods, developing connections between content and real-world contexts, and knowledge about accessible resources (Glazier, Bolick & Stutts, 2017; Melber & Cox-Petersen, 2005; O'Sullivan, Anderson & Richards, 2008). Figure 1 illustrates how experiential PD opportunities have the potential to build

dispositions, confidence and skills necessary for improving teaching in the classroom. These PD experiences are designed to expose learners to physically and emotionally challenging hands-on learning initiatives supported by structured individual and group reflections. Following reflection on the initial learning experience, learners are encouraged to construct abstract generalizations (e.g. how learning may apply to other aspects of life), and to focus on opportunities to experiment with knowledge gained in new contexts (e.g. work, home-life, social relationships).

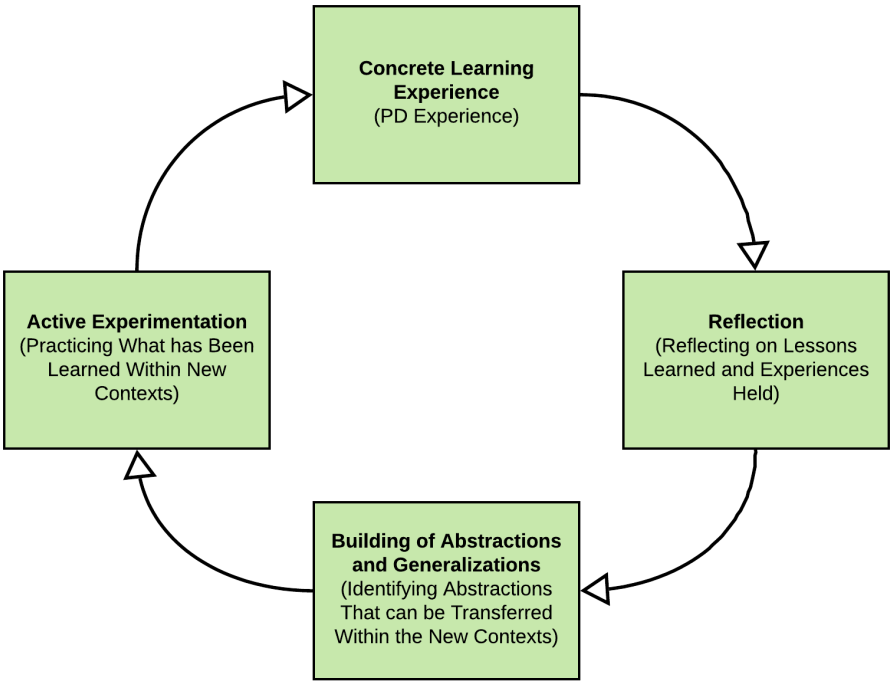


Figure 3.1: Experiential Learning Associated with Experiential Professional Development and School Contexts Integration. [Adapted from the Experiential Learning Cycle (Kolb, 2014)].

In 2011, a two-year study of experiential PD for teachers in an expeditionary learning school (EL) identified four key components that contributed to teachers' personal development and confidence and skills necessary to implement experiential teaching methods: re-experiencing the student experience, developing learning communities through shared experiences and terminology, the repeated use of strategies emphasizing how experiential learning can be transferred between subjects, and lastly, structuring time for reflective practices (Klein & Riordan, 2011). While this study demonstrates the potential positive impacts of experiential continuing PD programs for educators, further research is needed to confidently associate the influence of experiential PD on educators' success transferring training received in schools.

2.4 Incorporating the Wilderness Component

Research on non-traditional forms of educator PD, including wilderness-based programs, is limited (Glazier & Bean, 2018). Based on an extensive literature review of peer-reviewed articles published between 2000 and 2016, there appears to be a lack of research focused on the efficacy of EWBPD programs serving K-12 educators (Holland, Powell, Thomsen, & Monz, 2018). One study found assessing the degree to which an EWBPD program met the project goals of increasing educators' knowledge of, and comfort with, experiential education indicated remarkable outcomes including increased understanding and appreciation of experiential teaching practices (O'Sullivan, Anderson & Richards, 2008).

Throughout the history of wilderness-based programing, the natural environment has been assumed to be an important contributor to participant outcomes (Ewert, 1989;

McKenzie, 2000). Many recreational organizations (e.g. National Outdoor Leadership School, Outward Bound) utilize the wilderness environment as an authentic and challenging learning environment in which to facilitate a learner's progress through the experiential learning cycle. Ultimately, the goal of utilizing these natural settings is to provide participants with a novel and unique learning experience and also provide follow-up reflection to identify meaningful ways to transfer the experience to new contexts (Glazier, Bolick & Stutts, 2017). Although not focused on forms of PD, a wide range of participant outcomes have been associated with wilderness-based programs including the development of positive social practices (Bailey & Kang, 2015), mental and physical health (Whittington & Budbill, 2013), and many forms of reflective practices (Duvall & Kaplan, 2014), among many others (Holland et al., 2018).

3. Methods

3.1 Program Description

North Carolina Outward Bound (NCOB) is one of 11 U.S. Outward Bound schools (OB, 2018). NCOB provides an assortment of programs and expeditions lasting in duration from 1 to 65 days. Each of these programs emphasize hands on learning in supportive, challenging, adventure-based learning environments (OB, 2018). The Educators Initiative (NCOBEI) is one program offered by NCOB for K-12 school educators (e. g. teachers, school counselors, librarians, social workers, etc.). The NCOBEI program is focused on providing participants "with a thorough understanding of the Outward Bound expeditionary learning approach and to help them identify meaningful ways to integrate the approach into their own classrooms or teaching roles"

(NCOB Educator Programs, 2017).

The NCOBEI program incorporates an experiential and place-based approach and includes four primary components: 1) an 8-day wilderness backpacking and climbing experience in which educators are immersed in an expeditionary style classroom exposing them to experientially based learning; 2) two 3-day follow-up retreats focused on sharing experiences, providing communal support regarding challenges, re-engaging in the experiential learning process, and maintaining communication amongst educators from different schools; 3) an online resource library that assists educators in lesson development and provides them with examples of experiential practices; and 4), monthly phone calls in small groups that include the NCOBEI Education Director and a select group of educators from the participant's cohort. These phone calls focus on identifying challenges and opportunities integrating experiential teaching methods in their schools and seeks to further develop the learning communities.

During the wilderness phase of the program, it is thought that educators experience challenging, experientially-based, educational initiatives that give rise to skill development (Goldenberg & Soule, 2015), leadership traits (McKenzie, 2000), teamwork (Stott & Hall, 2003), and self-reliance (Bobilya, Kalisch, Daniel & Coulson, 2012), along with other associated outcomes of wilderness-based programs. Additionally, educators discuss how their experiences relate to the school context in hopes of transferring the lessons learned. Finally, the NCOBEI Education Director may visit educators based on availability and desire allowing the director to see first-hand how each educator's integration of experiential practices is unfolding and to provide continuing support.

3.2 Sample and Data Collection

To understand how EWBPD influences educators' beliefs regarding the importance of, and their confidence in, integrating experiential teaching methods, we used a quasi-experimental research design. To investigate the immediate influence of the program, we attempted a census of K-12 educators (n=41) enrolled in the 2017/2018 NCOBEI program. Surveys were administered immediately prior and immediately following the 8-day wilderness experience.

To explore the long-term influence of the PD program, follow-up surveys were administered 10-months following the wilderness experience, on day three of the second 3-day retreat, in April, 2018. Twenty-six educators returned for the 10-month retreat. Following the 3-day retreat, the remaining 15 educators from the 2017/2018 cohort were sent a follow-up survey via mail and email. Four additional surveys were received for a total of 30 surveys and a final response rate of 73%.

To further investigate the long-term influence of the program we also surveyed alumni of the NCOBEI. Following recommendations by Dillman (2004), in January, 2018, 248 alumni of the NCOBEI (years 2007-2016) were mailed surveys with a return addressed envelope. Additionally, we emailed identical electronic surveys to each alumnus. Informational emails about participating in the research were emailed to each alumnus in December of 2017, and again in January of 2018 at the commencement of the first round of mailing. All alumni that completed a survey were included in a drawing for an Amazon Fire Stick as an incentive.

After the initial mailing/emailing, two reminders post-cards, and one follow-up survey, were sent to each alumni in hopes of increasing the response rate. 102 surveys were returned with both a non-deliverable email and physical mailing address. After eliminating these from our sample, the final working sample was 146. A total of 75 alumni completed surveys, 6 paper and 69 web-based surveys (response rate 51%).

3.3 Instrument Development

Utilizing the Association of Experiential Education's Principals of Experiential Education Practices (AEE, 2018), 13 items (Table 3.6) were developed to assess educators' beliefs in the importance of, and confidence in, integrating experiential teaching methods in their schools. In order to increase alumni responses to the survey, alumni surveys were condensed to include five questions measuring educators' beliefs in the importance of, and confidence in, integrating experiential teaching methods in their classrooms. These items were chosen from the bank of 13 because they related directly to the four phases of Kolb's Experiential Learning Theory (experience, reflection, generalizing, and application) (Kolb, 1984) and the theories' emphasis on process orientation (O'Connell, Cuthbertson & Goins, 2014). Respondents were asked to rate their beliefs in the importance of (1=Not at all Important to 7=Extremely Important), and next for their level of confidence in (1=Not at all Confident to 7=Extremely Confident), integrating each technique on a 7-point likert scale.

3.4 Data Analyses

To determine if EWBPD influences educators' beliefs in the importance of, and confidence in, integrating experiential teaching methods in their schools, we compared educators' mean scores (pre, post, and 10-month follow-up) using a repeated measures Analysis of Variance with post hoc comparison (ANOVA; Von Ende, 2001).

To determine the long-term influence on educators' beliefs in the importance of, and confidence in, integrating experiential teaching methods, we compared the mean scores of alumni responses (years 2007-2016) to the 2017/2018 pre, post, and 10-month follow-up responses on 5 items utilizing a one-way ANOVA.

We also calculated *Cohen's d* for each statistically significant result. *Cohen's d* is an effect size measure that provides an assessment of the meaningfulness of the difference between groups (Tabachnick & Fidell, 2001). Meaningful differences begin near 0.2, which may be considered small, while those approaching 0.5 are considered medium, and 0.8 large (Lakens, 2013).

To investigate whether or not beliefs in the importance of, and confidence in, integrating experiential teaching methods could be used to predict educators' future use of these methods, we conducted a binary logistic regression analysis. For our independent variables (beliefs and confidence), we utilized educators' degree of beliefs and importance regarding integrating experiential methods recorded in the post-wilderness surveys. For the dependent variable (use of experiential methods), we utilized educators' responses from the 10-month surveys in order to test the relationship over a longer period of time.

4. Results

Female educators made up 72% of the total sample. Educators in our study worked in a range of school types. Forty-three percent of the total sample worked at a public, 27% private, and 30% charter school. While all educators had worked in the school system for at least one year, on average educators had 13 years of experience and 56% had 10+ years of experience working as an educator. Seventy-six percent of educators indicated that they taught in more than one grade level. Twenty-eight percent taught elementary, 23% taught middle, and 49% taught high school (Table 1). Educators taught a range of subjects (30 content areas). The three most frequently indicated subject areas included mathematics (32%), social studies (21%), and environmental sciences (17%) (Appendix 3.1).

Table 3.1: Educator Demographics

	2017/2018 Cohort (n=41)		Alumni (n=75)		Total (n=116)	
	N	**Percent**	**N**	**Percent**	**N**	**Percent**
Gender						
Male	9	21	24	32	33	28
Female	32	79	51	68	83	72
School Type						
Public	17	41	33	44	50	43
Private	12	29	19	25	31	27
Charter	12	29	23	31	35	30
Grades Taught by Educators						
(Pre-K- Grade 5)	14	35	19	25	32	28
(Grades 6-8)	10	24	16	22	27	23
(Grades 9-12)	17	41	40	53	57	49
Experience Working as an Educator (years)	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
	11.83	7.48	13.97	7.76	13.19	7.69

Short-term Influence of EWBPD

At the composite level, educators indicated a significant increase (<0.01) in their beliefs immediately following their wilderness experience. However, by the 10-month follow-up, this elevated belief was no longer found significantly increased. At the item level, educators indicated a significant increase in 4 of the 13 items measuring their beliefs immediately following their wilderness experience including: facilitating students in actively experimenting with theories and concepts; overcoming barriers to implementing experiential teaching; explaining experiential learning situations to the students; and, using a major project or field experience to guide learning over the entire course (Table 3.2). At the 10-month follow-up measurement, educators indicated 2 items significantly increased including: facilitating students' formation of abstract concepts and generalizations; and, facilitating students in actively experimenting with theories and concepts (Table 3.2).

The composite score indicated a significant increase (<0.001) in educators' confidence immediately following the wilderness experience that last up to 10-months following (<0.05) (Table 3.2). Educators indicated a significant increase in their confidence for 9 of the 13 items immediately following their wilderness exposure including: facilitating students' formation of abstract concepts and generalizations; facilitating students in actively experimenting with theories and concepts; focusing classroom activities on process rather than knowledge; overcoming barriers to implementing experiential teaching; explaining experiential learning situations to the students; facilitating learning outside students' perceived comfort level; and, delegating

authority to students. At the 10-month follow-up measurement, educators indicated 5 items significantly increased including: facilitating students' formation of abstract concepts and generalizations; facilitating students in actively experimenting with theories and concepts; focusing classroom activities on process rather than knowledge; explaining experiential learning situations to the students; and facilitating learning outside students' perceived comfort level (Table 3.2).

Table 3.2: 2017/2018 Cohort of Educators' Beliefs and Confidence in Integrating Experiential Methods

Items	Educators' Belief in the Importance of Integrating Experiential Methods					Post Hoc (Cohen's d)	Educators' Confidence in Integrating Experiential Methods					Post Hoc (Cohen's d)
	Mean (SD)			ANOVA			Mean (SD)			ANOVA		
	Pre (1)	Post (2)	10-Mo (3)	*F* (df)	*p*		Pre (1)	Post (2)	10-Mo (3)	*F* (df)	*p*	
*A	6.17 (1.07)	6.46 (0.87)	6.22 (1.28)	0.87 (108)	0.42	N/S	5.12 (1.27)	5.76 (1.07)	5.71 (1.14)	3.57 (108)	0.06	N/S
*B	6.22 (0.99)	6.61 (0.67)	6.30 (1.07)	2.09 (108)	0.13	N/S	4.98 (1.37)	5.59 (1.20)	5.26 (1.10)	2.46 (108)	0.09	N/S
*C	5.85 (1.13)	6.39 (0.83)	6.41 (0.84)	4.11 (108)	0.02	3>1 * (0.54)	4.59 (1.38)	5.32 (1.27)	5.48 (1.37)	4.67 (108)	0.01	2>1 * (0.59) 3>1 * (0.69)
*D	5.76 (1.16)	6.39 (0.80)	6.44 (0.85)	5.97 (108)	<0.01	2>1 ** (0.63) 3>1** (0.67)	4.39 (1.20)	5.10 (1.32)	5.15 (1.38)	4.07 (108)	0.02	2>1 * (0.56) 3>1 * (0.62)
*E	6.07 (1.06)	6.54 (0.60)	6.37 (0.79)	3.16 (108)	0.06	N/S	5.02 (1.19)	5.88 (1.01)	5.81 (1.11)	7.22 (108)	<0.01	2>1 * (0.78) 3>1 ** (0.69)
F	5.49 (1.47)	6.34 (0.94)	6.22 (1.12)	5.80 (108)	<0.01	2>1 ** (0.69)	3.73 (1.50)	5.02 (1.39)	4.52 (1.31)	8.67 (108)	<0.01	2>1 *** (0.89)
G	5.24 (1.50)	6.20 (1.03)	5.85 (1.20)	5.91 (108)	<0.01	2>1 ** (0.75)	3.83 (1.48)	5.20 (1.33)	5.04 (1.34)	11.32 (108)	<0.01	2>1 *** (0.97) 3>1 *** (0.86)
H	6.15 (1.11)	6.56 (0.59)	6.56 (0.70)	3.04 (108)	0.06	N/S	4.71 (1.33)	5.44 (1.23)	5.67 (0.78)	6.56 (108)	<0.01	2>1 * (0.57) 3>1 *** (0.88)
I	6.37 (0.89)	6.56 (0.71)	6.19 (1.11)	1.49 (108)	0.23	N/S	4.85 (1.15)	5.73 (1.10)	5.26 (1.10)	6.34 (108)	<0.01	2>1 *** (0.78)
J	6.29 (1.01)	6.61 (0.63)	6.37 (0.93)	1.48 (108)	0.23	N/S	5.02 (1.11)	5.59 (1.40)	5.52 (1.05)	2.51 (108)	0.09	N/S
K	5.44 (1.14)	6.27 (0.95)	5.56 (1.31)	6.35 (108)	<0.01	2>1 ** (0.79) 2>3 * (0.62)	4.46 (1.25)	5.32 (1.27)	4.52 (1.65)	4.76 (108)	0.01	2>1 * (0.68)
L	6.56 (0.84)	6.76 (0.49)	6.30 (0.95)	2.98 (108)	0.06	N/S	5.29 (0.90)	5.95 (1.00)	5.59 (1.19)	4.34 (108)	0.02	2>1 ** (0.69)
M	6.61 (0.80)	6.76 (0.58)	6.52 (0.85)	0.90 (108)	0.41	N/S	5.24 (1.18)	5.85 (1.15)	5.26 (1.13)	3.48 (108)	0.06	N/S
Composite Score	6.02 (0.77)	6.50 (0.53)	6.25 (0.74)	5.08 (108)	0.01	2>1 ** (0.73)	4.71 (0.86)	5.52 (1.00)	5.30 (0.80)	8.87 (108)	<0.01	2>1 *** (0.87) 3>1 * (0.71)

*Items used as a baseline for alumni measurement comparison; *p<.05 **p<.01 ***p<.001

A: Implementing concrete learning experiences.
B: Facilitating students' reflection on learning experiences.
C: Facilitating students' formation of abstract concepts and generalizations.
D: Facilitating students in actively experimenting with theories and concepts.
E: Focusing classroom activities on process rather than knowledge.
F: Overcoming barriers to implementing experiential teaching.
G: Explaining experiential learning situations to the students.
H: Facilitating learning outside students' perceived comfort level.
I: Delegating authority to students.
J: Helping students identify connections between one context and another.
K: Using a major project or field experience to guide learning over the entire course.
L: Posing problems for students to solve.
M: Providing time for reflection during and after learning experiences.

Long-term Influence of EWBPD

Utilizing the 5-item measurement, composite scores indicated a significant increase in educators' beliefs immediately following their wilderness experience (<0.05). However, by the 10-month follow-up, educators' beliefs were no longer found increased and alumni responses measured lower than pre-wilderness scores. Educators indicated a significant increase (<0.05) in 1 of the 5 items measuring their beliefs immediately following their wilderness experience (facilitating students in actively experimenting with theories and concepts) that remained significantly increased (<0.05) at the 10-month follow-up measurement (Table 3.3).

Composite scores indicated a significant increase in educators' confidence immediately following their wilderness experience (<0.001) that remined significantly elevated 10-months following (<0.05). Educators indicated a significant increase in 2 of the 5 items measuring their confidence immediately following the wilderness experience including: facilitating students' formation of abstract concepts and generalizations (<0.05) and focusing classroom activities on process rather than knowledge (<0.001). These two items remained significantly increased at the 10-months follow-up measurement (<0.05; Table 3.3).

Alumni measurements, although higher on all five items than the pre-wilderness measurement, were not found significantly increased at the composite or item-level for their beliefs in the importance of, and confidence in, integrating experiential teaching methods in their classrooms (Table 3.3).

Table 3.3: Educators' Beliefs and Confidence Integrating Experiential Teaching Methods in the Short and Long-Term

Items	Educators' Beliefs of the Importance in Integrating Experiential Teaching Methods						Post Hoc (Cohen's d)	Educators' Confidence in Integrating Experiential Teaching Methods						Post Hoc (Cohen's d)
	Mean (SD)				ANOVA			Mean (SD)				ANOVA		
	Pre (1)	Post (2)	10-Mo (3)	Alumni (4)	*F* (df)	*p*		Pre (1)	Post (2)	10-Mo (3)	Alumni (4)	*F* (df)	*p*	
A	6.17 (1.07)	6.46 (0.87)	6.22 (1.28)	5.94 (0.98)	2.27 (178)	0.08	N/S	5.12 (1.27)	5.76 (1.07)	5.71 (1.14)	5.26 (1.00)	3.36 (178)	0.05	N/S
B	6.22 (0.99)	6.61 (0.67)	6.30 (1.07)	5.94 (1.02)	4.33 (178)	<0.01	2>4 ** (0.70)	4.98 (1.37)	5.59 (1.20)	5.26 (1.10)	5.21 (1.15)	1.78 (178)	0.15	N/S
C	5.85 (1.13)	6.39 (0.83)	6.41 (0.84)	5.64 (1.01)	7.12 (178)	<0.01	2>4 ** (0.72) 3>4 ** (0.74)	4.59 (1.38)	5.32 (1.27)	5.48 (1.37)	4.79 (0.95)	4.74 (178)	<0.01	2>1 * (0.55) 3>1 * (0.69)
D	5.76 (1.16)	6.39 (0.80)	6.44 (0.85)	5.74 (1.07)	6.13 (178)	<0.01	2>1 * (0.63) 3>1 * (0.67) 2>4 ** (0.69) 3>4 * (0.72)	4.39 (1.20)	5.10 (1.32)	5.15 (1.38)	4.83 (1.18)	2.91 (178)	0.05	N/S
E	6.07 (1.06)	6.54 (0.60)	6.37 (0.79)	6.06 (1.03)	2.92 (178)	0.06	N/S	5.02 (1.19)	5.88 (1.01)	5.81 (1.11)	5.37 (1.16)	4.96 (178)	<0.01	2>1 *** (0.78) 3>1 * (0.69)
Composite Score	6.01 (0.86)	6.48 (0.58)	6.35 (0.78)	5.87 (0.66)	7.63 (178)	<0.01	2>1 * (0.64) 2>4 *** (0.98) 3>4 * (0.66)	4.81 (1.00)	5.52 (0.96)	5.48 (1.00)	5.09 (0.68)	5.70 (178)	<0.01	2>1 *** (0.72) 3>1 * (0.67)

*Items used as a baseline for alumni measurement comparison; *p<.05 **p<.01 ***p<.001

A: Implementing concrete learning experiences.
B: Facilitating students' reflection on learning experiences.
C: Facilitating students' formation of abstract concepts and generalizations.
D: Facilitating students in actively experimenting with theories and concepts.
E: Focusing classroom activities on process rather than knowledge.

Predicting Future Use

Results from the logistic regression indicated that educators' beliefs and confidence at the post-wilderness measurement did not significantly predict their future use of experiential teaching methods (Table 3.4).

Table 3.4: Logistic Regression Results Predicting Use of Experiential Methods

					95% CI for Odds Ratio	
Predictor	***B***	**SE *B***	$\Delta\chi^2_{\text{removal}}$	**Odds Ratio**	**Lower**	**Upper**
Constant	2.23	7.21	--	--	--	--
Beliefs in the Importance of	-0.30	1.45	-0.04	0.74	0.03	12.14
Confidence in	0.23	0.76	-0.10	1.26	0.26	5.79

Notes: Model $\chi^2 = .096$, n = 30, $R^2_L = 0.00$, Initial (null) -2 Log Likelihood (-2LL) = 27.03, Model -2 LL with predictors = 26.94

5. Discussion

The purpose of this study was to determine if an EWBPD program could be effective in enhancing educators' beliefs in the importance of, and their confidence in, integrating experiential teaching methods in their classrooms and if this influence changes over time. Additionally, we aimed to determine if educators' beliefs and confidence regarding integrating experiential methods could be used to predict their future use. The findings from this study indicate that educators' participation in EWBPD can positively influence their belief in the importance of, and their confidence in, integrating experiential teaching methods in their schools. However, our data suggests that these increases are not permanent and do not remain elevated long-term.

Additionally, our findings indicate that educators' beliefs and confidence regarding integrating experiential teaching methods could not predict their latter use. The following sections will explore these findings and their managerial implications further.

5.1 Educators' Enhanced Beliefs and Confidence Regarding Experiential Learning

The influence of the NCOBEI program on educators' beliefs and confidence regarding integrating experiential teaching methods may be attributed to both the wilderness component and the program design. The NCOBEI program utilizes the wilderness setting as the primary programming element in which to facilitate educators' initial learning experience. Just as wilderness settings in non-PD programs have been associated with a range of participant outcomes, PD is no exception. In a concurrent study (Holland et al., In Progress), programming elements of an EWBPD program were investigated for their influence towards participating educators' personal and professional outcomes received. Educators in that study identified the wilderness-setting as having the greatest influence on both personal and professional-development outcomes they associated with participation. The results from the present study compliment these findings by demonstrating the influence of an EWBPD program on educators' beliefs and confidence integrating experiential methods in their classrooms. The wilderness component provides a powerful experience that appears to set the tone for educators to build a foundation in successfully integrating experiential teaching methods in professional contexts.

The program design may have additionally contributed towards educators' enhanced beliefs and confidence (Haras et al., 2005). NCOBEI administration and staff

maintain intentionality in assisting educators in identifying connections between educational initiatives facilitated in the wilderness setting and each initiatives' transferability in the school contexts. Educators' elevated beliefs in the importance of, and their confidence in, *facilitating students' formation of abstract concepts and generalizations*, and in *facilitating students in actively experimenting with theories and concepts*, up to 10-months following their wilderness experience may have been fostered through this intentional programming. OB refers to this process as "removing the mask". Removing the mask involves educators experiencing the student-role of learning and being challenged, being facilitated in a reflective process of how they managed challenging learning experiences, and then openly discussing how experiences held can be generalized and experimented with in the school context.

Although educators' beliefs in the importance of integrating experiential teaching methods in their classrooms were found to have not significantly changed as of 10-months following the wilderness experience, educators in our sample entered the PD program indicating high beliefs on all thirteen items. This finding could indicate that educators may have chosen to participate in this form of PD due in part to their pre-existing value for experiential learning methods. Despite being seemingly "bought in" to the importance of experiential teaching, educators' confidence integrating these methods significantly increased immediately following their wilderness-experience and remained elevated until the end of the year-long program. Therefore, the power of the NCOBEI program appears to lie in its ability to contribute greatly to educators' confidence in

integrating experiential teaching methods in their schools, even those who are already committed to this teaching method.

5.2 *Changes in Influence of EWBPD Over Time*

Educators' diminished beliefs and confidence long-term coincide with existing literature associating participant outcomes in mountain-top experiences held during wilderness-based recreational programs that fade upon returning to the participants' home communities (e.g. Roberts, 2012). The experiences held by educators while in the wilderness seem to have greatly influenced their immediate beliefs and confidence integrating experiential teaching methods in their classrooms. However, obstacles including forms of support in the school environment, educators' experience facilitating experiential learning, and the broader societies perceptions of non-traditional teaching methods, among others, may have contributed to educators' lack of long-term beliefs and confidence.

Increasingly, research confirms that work settings are an important factor in determining whether trainees apply knowledge and skills developed during PD in their job setting (Wen & Lin, 2014). Research on educational PD has indicated that the success of educators transferring PD may be dependent on the transfer climate (school environment) in which educators return to post training. Positive attributes of successful transfer climates have been identified and include supervisorial support, opportunities to experiment with training, facilitated mentorship and reflective practices, among others (Wen & Lin, 2014). While the NCOBEI program does provide opportunities for educators to receive supervisorial support from the NCOB Education Director, these

opportunities are limited due to time and availability of personnel and resources. Additionally, educators have limited chances to experiment with facilitating and adapting educational initiatives experienced in the wilderness setting to fit their classroom lessons. Lastly, educators receive follow-up mentorship and facilitated reflection upon returning to OB for the two three-day retreats. While these programming elements positively influence educators' beliefs and confidence during the program, the barriers associated with the transfer climate educators experience in their workplace may overpower the influence of the retreat.

5.3 Predicting Future Use of Experiential Teaching Methods

Educational researchers have identified a range of predictors associated with educators' later use of traditional PD including the participants' experience level, perceived school capacity, and openness to change, among others (Cousins & Walker, 2000; Vannatta & Nancy, 2004). However, this line of research has not included non-traditional forms of PD such as EWBPD opportunities for K-12 educators. Our exploratory study indicated that educators' beliefs and confidence regarding integrating experiential teaching methods could not be used to predict their later use. The nature of these EWBPD programs may attract educators who are already invested in the use of experiential teaching practices making predicting changes in use challenging. Results may vary in samples of educators who demonstrate varying levels of beliefs and confidence when entering the program. Future research should explore the impact of EWBPD on diverse samples of educators.

6. Conclusion and Implications

The findings of this study hold implications for both programmers and researchers. We recommend further exploration of the relationship between educator's beliefs and confidence regarding integrating experiential teaching methods in their classroom post EWBPD program and their later use of these methods sampling a population of educators who do not initially hold high measurements of these variables. Additionally, we recommend further investigation into alternative predictors including educators' perceived school capacity, school administrators' beliefs in the importance of educators utilizing these methods, and educators' acceptance of challenge in experimenting with new teaching methods.

In reference to the diminishing influence of the NCOBEI program long-term, alternative forms of EWBPD that incorporate additional school stakeholders (e.g. administrators, students, parents) may increase participants' success in both training transfer and sustained use via establishing a positive transfer climate. Lastly, further research should investigate how educators can better transfer characteristics of the wilderness-setting (e.g. challenge, physical exertion, dependence upon group performance) in their school classrooms.

Our study demonstrates the power and potential of EWBPD programs to influence educators and, by extension, their students. The integration of more experiential teaching methods into schools could have positive implications for many stakeholders. As we continue to better understand how to provide more powerful and successful PD

opportunities for educators, we will strengthen our education system, students, and future.

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Appendix

Appendix 3.1: Content Areas Taught by Educators

Content Taught by Educators	2017/2018		Alumni		Total	
	N	Percent	N	Percent	N	Percent
Productive Discussion	0	0	1	1	1	1
Music	0	0	1	1	1	1
Theater	0	0	1	1	1	1
Physics	1	2	0	0	1	1
Engineering	1	2	0	0	1	1
Anatomy	0	0	2	3	2	2
Physiology	0	0	2	3	2	2
Media	0	0	2	3	2	2
Career Skills/College Readiness	1	2	1	1	2	2
Biology	2	5	0	0	2	2
Computer skills	2	5	0	0	2	2
Technology	2	5	0	0	2	2
Economics	1	2	2	3	3	3
Administration/Principle	0	0	4	5	4	3
Creative Space	1	2	2	3	3	3
Experiential Education	0	0	4	5	4	3
Life Skills	0	0	3	4	3	3
Outdoor Education	2	5	3	4	5	4
Counseling	2	5	3	4	5	4
Art/Graphic Design	3	7	2	3	5	4
Special Education	2	5	4	5	6	5
History	1	2	6	8	7	6
Literature	6	13	4	5	10	9
Physical Education	4	9	6	8	10	9
Foreign Languages	3	7	7	9	10	9
General Education	7	16	5	7	12	10
Grammar/English	10	22	8	11	18	15
Environmental Science	4	9	16	21	20	17
Social Studies	9	20	16	21	25	21
Mathematics	11	24	26	35	37	32
Total						

***Totals do not equal 100% because educators may teach in more than one subject/content area*

CHAPTER FOUR

CAN EXPERIENTIAL WILDERNESS-BASED PROFESSIONAL DEVELOPMENT TRAININGS IMPROVE POSITIVE CHARACTER AND PROFESSIONAL PRACTICES IN EDUCATORS?

Keywords: character trait, educator, experiential education, outward bound, professional development

Abstract

Continuing education programs for educators typically aim to ensure that participants have the training to prepare students to succeed both in school and society. However, not all professional trainings are the same, and many non-traditional forms, such as wilderness-based programs lack evidence regarding their efficacy. This form of training utilizes the wilderness environment, challenging recreational activities, and experiential teaching methods to enhance educators' character traits and professional development. However, to date, evidence of the efficacy of wilderness-based professional training for educators is lacking. This study examined the influence of an experiential wilderness-based training on K-12 school educators and used Kirkpatrick's taxonomy framework (1976) to organize findings into three categories: satisfaction, learning, and behaviors. Our results indicate that educators were highly satisfied with this form of training, developed positive character traits, advanced in their professional development, and integrated experiential teaching methods in their schools. The results of this study suggest that wilderness-based professional development is successful in enhancing professional outcomes for school educators.

1. Introduction

Continuing education programs for educators are increasingly important in ensuring that participants have the tools and knowledge needed to prepare students to succeed both in school and society (Stewart, 2014). For educators, continuing education programs include a wide range of specialized trainings (e.g. crisis intervention training), formal education programs (e.g. advancing classroom practices), and professional courses (e.g. educational technology and bullying prevention) that seek to ultimately improve student academic performance though improving teachers' professional skills and increasing confidence and self-efficacy (Korthagen, Loughran & Russell, 2006; Whitworth & Chiu, 2015). However, not all forms of PD for educators are the same, and in fact very few PD result in long-term changes in educators' professional practices and student outcomes (Yoon, Duncan, Lee, Scarloss & Shapley, 2007).

1.1 Experiential Wilderness-Based PD for Educators

Experiential wilderness-based PD (EWBPD) programs are one type of continuing education approach that exposes educators to challenge, adventure activities, and hands-on participation intended to reinforce and improve personal character traits, increase their use of experiential education methods in school, and ultimately to improve student performance (NCOB Education Programs, 2017). Although limited, research examining the use of experiential learning methods in PD contexts suggest the potential for delivering remarkable outcomes including increased content knowledge, the development of instructional methods, developing connections between content and real-world contexts, and knowledge about accessible resources (Glazier, Bolick & Stutts, 2017;

Melber & Cox-Petersen, 2005; O'Sullivan, Anderson & Richards, 2008). However, forms of experiential PD that incorporate the wilderness setting have not been adequately evaluated in order to understand their influence on participating educators.

1.2 EWBPDs' Use of Positive Psychology

EWBPD programs emphasize a nurturing and supportive educational approach to enhance individuals' personal traits and characteristics, such as grit, empathy, and compassion (NCOB Education Programs, 2017). Positive psychology is the study of human happiness, well-being, and positivity at the individual and social levels; and has been utilized to investigate how people live their best lives, commonly referred to as flourishing (Peterson & Seligman, 2004; Seligman & Csikszentmihalyi, 2014). EWBPD programs use challenge, facilitated group activities, and experiential learning to develop participants' character, which is the underpinning necessary for advancing professional practices. Many behavioral and organizational change theories [e.g. Theory of Planned Behavior (Ajzen, 1991), Social Learning Theory (Bandura, 1977), and Organizational Readiness (Weiner, 2009)] support this notion that enhancing participants' character (e.g. self-efficacy) assists and in fact is necessary for professional development and behavioral changes (e.g. integrating experiential teaching methods in schools).

1.3 North Carolina Outward Bound Educators' Initiative

North Carolina Outward Bound (NCOB), one of 11 U.S. Outward Bound schools, offers an EWBPD program called the Educators Initiative (NCOBEI) for K-12 educators (e. g. teachers, school counselors, librarians, social workers, etc.) and is focused on exposing participants to challenging educational initiatives intended to develop virtuous

character traits thought to assist with their professional development (e.g. development of social capital, beliefs and confidence establishing positive classroom culture, attitudes regarding the teaching profession) and use of experiential teaching methods in their schools. These character traits include educator's grit, self-reliance, craftsmanship, and self-reflection, among other; and have been identified as character strengths associated with individual and organizational flourishing (Peterson & Seligman, 2004).The NCOBEI program incorporates an experiential and place-based approach and includes three primary components: 1) an 8-day wilderness backpacking and climbing experience in which educators are immersed in an expeditionary style classroom; 2) two 3-day follow-up retreats focused on sharing experiences from the classroom, providing communal support regarding challenges, re-engaging in the experiential learning process, and maintaining communication amongst educators from different schools; and 3), monthly phone calls in small groups that include the NCOBEI Education Director and a select group of educators from the participant's cohort. These phone calls focus on identifying challenges and opportunities for integrating experiential teaching methods in their schools and seek to further develop the learning communities. However, to date, this program has not been adequately evaluated to determine its' success in developing educators

1.4 Kirkpatrick's Framework for Categorizing Training Criteria

Kirkpatrick's four-level model (1976) is a popular hierarchical framework used to organize the results of evaluations of a range of PD programs (e.g. higher education and leadership development programs (McLean & Moss, 2003; Praslova, 2010). The

framework includes four hierarchical outcomes associated with training: *Satisfaction*, referring to participants' enjoyment; *Learning*, refers to the development of new knowledge and skills; *Behavior*, refers to the use of the newly attained knowledge and skills on the job; and, *Results,* refer to the resulting benefits of these improved behaviors to the supporting organization or greater society (1976). The present study aims to evaluate the immediate and more long-term influence of an EWBPD program for K-12 educators using three (*satisfaction*, *learning*, *behavior*) of Kirkpatrick's (1959) four evaluation levels.

2. Methods

2.1 Data Collection

To investigate the immediate influence of the wilderness aspect of the NCOBEI training program we administered surveys immediately before and immediately after the 8-day wilderness experience. All 41 educators enrolled in the 2017/2018 NCOBEI program completed pre and post-wilderness surveys. To investigate the more-long term influence of the complete program, we administered follow-up surveys 10 months after the wilderness experience at the conclusion of the final 3-day retreat. Twenty-six educators returned for the 10-month retreat and completed surveys. Following the 3-day retreat, the remaining 15 educators were sent a follow-up survey via mail and email. Four additional surveys were received for a total of 30 follow-up surveys and a final response rate of 73%.

2.2 Instrument Development

We developed a survey to assess three levels of Kirkpatrick's framework. Identifying the intended outcomes of the Educators Initiative was a participatory process, engaging Outward Bound staff members and key stakeholders including program managers, directors, and former directors of similar educational programs. Following steps outlined by Powell, Stern, and Ardoin (2006), we facilitated the identification and definition of programmatic goals (Table 4.1), which guided the subsequent development of specific items for measuring each character trait and professional development outcome following recommendations by DeVellis (2003). Items are provided in Appendix 4.1.

2.3 Educators' Satisfaction to Training

We assessed participants' degree of satisfaction with the Educators Initiative program on a scale from 0 (Not at all Satisfied) to 10 (Very Satisfied). Educators were additionally asked how likely they were to recommend the NCOBEI program to other educators on a scale from 0 (Not at all Likely) to 10 (Very Likely).

2.4 Learning Outcomes

We assessed 6 positive character traits and 5 professional development outcomes. Table 1 provides each trait and outcome with a definition, measurement scale, and origin of each measure.

2.5 Behavioral Development

To measure educators' use of experiential education methods, educators were asked 10 months after their wilderness experience to indicate if they currently employ experiential education techniques in the classroom. Next, for those that stated that they do employ these methods, an open-ended qualitative question asked educators to provide specific examples as to how they implement experiential education techniques in their schools.

Table 4.1: Desired Character Traits and Professional Outcomes of the NCOBEI Program (Alphabetically Organized)

Construct	Definition	Measurement Scale	Scale Origin
Positive Character Traits			
Compassion	Pursuing and demonstrating concern, empathy, and tolerance for diverse individuals and perspectives.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Adapted from Joliffee and Farrington's (2006) Basic Empathy Scale and Neff's (2003) Self-Compassion Scale
Craftsmanship	Organization, intentionality, and ownership in one's work and actions.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Developed items
Grit	One's perseverance and value in relying on one's own abilities to reach desired goals.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Adopted Duckworth, Peterson, Matthews & Kelly's (2007) Grit scale
Physical Fitness	Increased intentions and participation in physical activities both in and outside of the school.	Multiple-choice questions indicating frequency, duration, and intensity-level of participation	Developed items
Self-efficacy	Belief that one can perform a novel or difficult task, or cope with adversity.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Adopted Schwarzer and Jerusalem's (1995) general perceived self-efficacy scale
Self-Reflection	Providing and valuing time for both the educators and students to reflect on classroom experiences, outcomes, and areas of transference of experiences.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Adapted Grant, Franklin and Langford's (2002) Self-reflection and Insight Scale
Professional Development Outcomes			
Attitudes Regarding the Teaching Profession	Job satisfaction, perceptions of support from colleagues and administration, intentions to maintain current employment, and beliefs regarding personal importance in the school system.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Developed items
Classroom Climate Beliefs and Confidence	Educator support; consistency and clarity of rules and expectations, student commitment and achievement orientation, negative and positive peer interactions, disciplinary harshness, student input in decision making, instructional innovation, and safety management.	Beliefs in the importance of, and confidence in, completing each: 1 (Not at all Important) - 7 (Extremely Important) and 1 (Not at all Confident) - 7 (Extremely Confident)	Developed items
Experiential Education: Importance and Confidence	Importance of, and confidence in using the four stages of Kolb's Experiential Learning Theory (1984) and other experiential teaching techniques.	Beliefs in the importance of, and confidence in, completing each: 1 (Not at all Important) - 7 (Extremely Important) and 1 (Not at all Confident) - 7 (Extremely Confident)	Adapted items based on the Association of Experiential Education's (AEE) principles of experiential education (AEE, 2018)
Leadership Roles in Schools	Serving as support for colleagues and students, acting as a mentor, undertaking extra tasks, and continuously striving to advance in one's professional skill(s).	How often: 0 (Never) - 10 (Extremely Often)	Developed items
Social Capital	Developing and maintaining relationships that form social networks willing to help each other.	Level of agreement: 0 (Completely Disagree) - 10 (Completely Agree)	Adapted Moolenaar and Sleeger's (2010) 'trust in colleagues' scale

3. Analysis

Composite scores for each construct were computed. To examine the immediate and more long-term influence of the wilderness training program, the changes in the mean score for each outcome of interest were assessed utilizing a repeated measure Analysis of Variance (ANOVA) with Bonferroni's post hoc test. We also calculated *Cohen's d* for each statistically significant result. *Cohen's d* is an effect size measure that provides an assessment of the meaningfulness of the difference between groups (Tabachnick & Fidell, 2001). Meaningful differences begin near 0.2, which may be considered small, while those approaching 0.5 are considered medium, and 0.8 large (Lakens, 2013). To analyze educators' responses to the question "do you currently employ experiential education techniques in your school or classroom and, if so, how?" we categorized the ways educators used these techniques.

4. Results

We utilized Kirkpatrick's (1976) framework to organize our evaluation results:

4.1 Level One: Satisfaction

Educators indicated a high degree of satisfaction with the NCOBEI program immediately after (M=9.71, SD 0.60), and 10-months after, the wilderness experience (M= 9.63, SD 0.67). Additionally, 83% of educators indicated the highest likelihood of recommending the NCOBEI program to other educators. All educators surveyed indicated an 8 or higher with regards to likelihood of recommending the program.

Table 4.2: Character Traits and Professional Outcomes Composite Scores (Alphabetical Order).

Learning Outcomes	Mean (SD)			ANOVA			Post Hoc (Cohen's d)
	Pre (1)	Post (2)	10-Month (3)	*F*	(df)	*p*	
Positive Character Traits							
+Compassion α= .87	8.08 (1.46)	8.61 (1.08)	8.59 (0.85)	2.39	108	0.10	N/S
+Craftsmanship α= .79	8.03 (1.23)	8.52 (1.16)	8.31 (1.32)	1.60	108	0.21	N/S
Grit α= .73	5.92 (0.97)	6.32 (1.05)	6.37 (0.88)	2.28	108	0.11	N/S
Physical Fitness	3.29 (0.72)	3.26 (0.55)	3.11 (0.81)	2.54	108	0.08	N/S
Self-Efficacy α= .89	6.94 (1.29)	8.43 (0.90)	7.71 (1.41)	15.88	108	<0.01	2>1 *** (1.34) 3>1 * (0.57)
Self-Reflection α= .90	7.54 (1.62)	8.54 (1.25)	8.59 (0.85)	4.26	178	0.01	2>1 ** (0.69) 3>1 ** (0.78)
Professional-Development Outcomes							
+Attitudes Toward the Teaching Profession α= .80	8.59 (0.97)	8.91 (0.91)	8.61 (0.77)	1.55	108	0.22	N/S
Establishing Positive Classroom Climate							
Belief in the Importance of	6.18 (0.89)	6.54 (0.54)	6.65 (0.47)	4.65	108	0.01	3>1 * (0.66)
Confidence in	4.85 (1.00)	5.61 (0.87)	5.62 (0.67)	9.59	108	<0.01	2>1 *** (0.81) 3>1 *** (0.90)
Integrating Experiential Teaching Methods							
Belief in the Importance of	6.02 (0.77)	6.50 (0.53)	6.25 (0.74)	5.08	108	0.01	2>1 ** (0.73)
Confidence in	4.71 (0.86)	5.52 (1.00)	5.30 (0.80)	8.87	108	<0.01	2>1 *** (0.87) 3>1 * (0.71)
Participation in Leadership Roles α= .94	5.41 (1.78)	7.53 (1.58)	6.35 (1.74)	15.99	108	<0.01	2>1 *** (1.26) 2>3 * (0.71)
Social Capital α= .89	7.74 (1.23)	8.09 (1.26)	8.25 (1.12)	1.59	108	0.21	N/S

*p<.05 **p<.01 ***p<.001

+ Indicates a high measurement at the pre-wilderness measurement

4.2 Level Two: Learning

Results showed significant increases in 6 of the 13 outcomes immediately following the wilderness experience. These outcomes include 2 character traits (*self-efficacy,* and *self-reflection*) and 4 professional-development outcomes (*importance and confidence in integrating experiential teaching methods; confidence in establishing positive classroom climate; and participation in leadership roles,*) (Table 4.2). Additionally, 5 of these outcomes remained significantly elevated 10-months following the wilderness experience. These outcomes include 2 character traits (*self-efficacy,* and *self-reflection*) and 3 professional-development outcomes (*belief in the importance of, and confidence in, establishing positive classroom climate; and confidence in integrating experiential teaching methods,* Table 4.2).

4.3 Level Three: Behavior

Ten months after the wilderness experience, 25 (83%) educators indicated that they employed experiential education techniques in their schools. Educators' qualitative responses regarding how they use experiential teaching methods in their schools were coded into three categories (Table 4.3). Eighty percent of educators indicated that they held *an increased appreciation of students experiencing challenge and failure*; sixty percent of educators indicated that they *used Kolb's Experiential Learning Cycle in their classrooms*; and, fifty three percent of educators indicated that they further *established physical and emotional safety in their classrooms*. Table 3 provides examples of each of these categories the frequency.

Table 4.3: Educators' Use of Experiential Teaching Methods

Educators' Use of Experiential Teaching Methods	Select Educator Quotes	Frequency (%)
Increased Appreciation of Students Experiencing Challenge and Failure	"*On my major projects, I provide experiential education to give kids more of a chance to fail. They take more risks as a result. This didn't happen near as much before this course. I always played it safe as a teacher but I don't do that now*!" "*I now promote the idea of stepping out of your comfort zone and allow students to experience push-backs."*	24 (80%)
Use of Kolb's Experiential Learning Cycle in Classroom	"*I use the EL* (experiential learning) *format to debrief content areas covered in class. Each day, I walk students through reflecting on their learning, generalizing what we discussed and experienced, and thinking about how they can apply what they have learned in the next lesson and their own lives.*" *"I draw the learning cycle on the board in front of my class and have students discuss how lessons can be reflected upon, generalized, and applied in other areas."*	18 (60%)
Establishment of Physical and Emotional Safety in the Classroom	*"I take time at the beginning of each semester to establish group norms. This requires all students to participate and to indicate what works and does not work for them. We then use these norms throughout the class to ensure all students feel safe."* *"Each of my classes now create a tribal flag. This flag replicates the flag we made in my OB cohort. Students work together to identify what is unique about the group, how they want to be identified, and what they need in order to feel supported. We then use the flag to maintain a positive learning environment throughout the semester."*	16 (53%)

*Totals do not equal 100% because educators may have listed more than one method

5. Discussion

This study aimed to evaluate the NCOBEI program as an EWBPD training for K-12 school educators. The results of our evaluation suggest that participants have a high degree of satisfaction immediately and 10 months after the wilderness experience. The program also appeared to influence 2 personal character traits and 4 professional development learning outcomes; and finally, the results suggest that the program motivated post-training behavioral changes. The following sections will discuss our findings and their implications further.

5.1 A Highly Satisfying and Influential Form of PD

For years educational researchers have called for more innovative, engaging, and satisfying PD opportunities for educators in response to educators' dissatisfaction with traditional PD opportunities (e.g. Hill, 2009; Malik, Nasim & Tabassum, 2015). The findings from our study indicate that the NCOB EWBPD program was highly satisfying and that participants were very likely to recommend the program to others. Research suggests that educators' high likelihood to recommend a program to others indicates participants' belief in the importance and utility of the training, and is commonly associated with positive professional outcomes (Nikandrou et al., 2009).

NCOBEI was successful in advancing two positive character traits and four professional-development outcomes for participants. Educators in our study indicated significant increases in their self-reliance and self-reflection immediately following and 10-months following their wilderness experiences. Additionally, four professional-development outcomes significantly increased immediately following the wilderness

experience, three of which were retained 10-month following (*beliefs in the importance of, and confidence in, establishing positive classroom climate* and *confidence in integrating experiential teaching methods in the classroom*). OB utilizes the wilderness setting as an immersive and challenging classroom in which participants alternatively take leadership roles and engage in collaborative problem-solving tasks that are thought to advance character traits and skill development (Walsh & Golins, 1976). OB's educational approach, referred to as an Hahnian educational philosophy, has been associated with increases in a range of positive character traits including self-reliance and use of reflective processes (Daniel, 2010). Educators in our study demonstrated that this educational approach provides a mechanism for influencing positive character traits as well as professional development.

Of the thirteen outcomes measuring educators' "learning", six did not change as a result of participation. These outcomes include four character traits (*compassion*, *craftsmanship*, *grit*, and *physical fitness*) and two professional development outcomes (*attitudes regarding the teaching professional* and *social capital*). However, there appears to be a ceiling effect; before participation in the program educators indicated high levels of *compassion*, *craftsmanship*, and *attitudes regarding the teaching profession* (M=8+ out of 10; Table 4.2). These high initial measurements may explain a lack of significant changes immediately and 10-months following their wilderness experience. Educators who entered the program with high measurements (e.g. high compassion) may have still experienced growth in that area that was not adequately captured by our measurement scales. Educators also responded to the pre-wilderness

survey without exposure to NCOB EWBPD. Therefore, their interpretation of these traits may have changed as a result of the program but that change would not have been captured in our results.

The significant changes in most of the educators' professional development outcomes may be due to these outcomes being mostly skills based as opposed to character traits. While skills are readily learned, character traits may take more time to change (Seligman & Csikszentmihalyi, 2014). For example, EWBPD training can provide instruction in particular skills and opportunities to practice them in a safe and supportive environment. However, according to positive psychology research, influencing character traits such as "grit" requires sustained and targeted efforts and shorter duration programs may not be adequate to influence these deep-seated traits (Duckworth et al., 2007). Additionally, application of each character trait would be completed in a manner supporting educators' individual character strengths requiring a high degree of self-awareness. Often, the timing of those situations is beyond the control of the individual making the use of new character strengths less predictable, and perhaps more delayed, than the use of professional skills. These findings have implications for EWBPD programs as to the efficacy of a week-long PD trainings significantly changing participant's character traits (e.g. grit, compassion, behaviors).

A large percentage of educators reported employing experiential teaching techniques 10-months following the wilderness experience. This finding demonstrates that the training was successful in preparing educators to transfer their training and to make changes in their schools and classrooms. Educators' success in transferring

experiential teaching techniques may be attributed to their increased self-efficacy and increases in their beliefs in the importance of, and their confidence in, integrating these methods (Bandura, 1977; Table 4.2).

Experiential learning is commonly thought of as "learning through reflection" and the skill to facilitate experiential learning opportunities for students would require an admirable degree of self-reflection in the educator (Kolb, 2005). The ability to transfer skills and new knowledge learned is key to any form of professional development but particularly important for educators whose primary goal is to facilitate the success of their students. Self-efficacy is defined as one's belief that they can perform a novel or difficult task, or cope with adversity, and is recognized in many behavioral theories as a key element in determining how one acts (Bandura, 1977). Educators' increased self-efficacy may have supported their increased beliefs and confidence regarding integrating experiential teaching techniques in their classrooms, ultimately leading to their use of these methods. This successful adaptation of training demonstrates mastery and competence in reorganizing the meaning of their wilderness experience, a recognized ideal outcome of OB's educational approach (Walsh & Golins, 1976).

5.2 EWBPD's Use of Positive Psychology

The NCOBEI's practical use of positive psychology, emphasizing the importance of character development in pursing professional changes in educators, supports participants' individual-readiness for organizational-level changes (NCOB Educator Programs, 2017; Choi & Ruona, 2011). In order for an organization to successfully integrate changes (e.g. changing school culture or schools integrating experiential

teaching methods), the process must start at the individual level (Choi & Ruona, 2011). Historically, professional wilderness-based organizations (e.g. Outward Bound, National Outdoor Leadership School) have been oriented towards many forms of personal development (e.g. self-reliance, physical fitness, hard skill development, craftmanship), hopeful that participants identify meaningful ways to transfer these skills and positive character strengths into all parts of life (Holland et al., 2018). On the other hand, many traditional forms of educator PD emphasize the development of specific skills or new knowledge while completely ignoring the advancement of character traits (Zepeda, 2019).

Our results suggest that NCOBEI's intentional focus on participants' development of character strengths may in fact further support their professional development and later use of trained knowledge and skills in their schools. Educators' increased self-efficacy and self-reflection, along with their high measures of grit, craftsmanship, and other character strengths, assists in their ability to adapt to the many challenges and obstacles educators encounter in the workplace and may be attributed to their use of experiential teaching techniques in their schools 10-months following their wilderness experience.

5.3 Future Research Opportunities

Further research should investigate whether the employment of experiential teaching methods and professional development has resulted in improved student performance and increased positive class and school culture. This reflects Kirkpatrick's fourth outcome level which seeks to determine whether the learning has had a positive effect on the institution or broader society (Kirkpatrick, 1996). Investigating participants'

school and community-level impacts associated with participation in EWBPD would greatly contribute to our understanding of the efficacy of these wilderness-based PD programs and their utility for educators, administrators, and ultimately student learning. Additionally, further research is needed to determine the influence of specific programming elements. This research should investigate the dosage and frequency of each programming element needed for participants to effectively enhance positive character traits as well as the integration of experiential teaching methods in classrooms.

6. Conclusion

This study aimed to evaluate the influence of an EWBPD opportunity for K-12 educators. Our findings indicate that the NCOBEI program is a successful EWBPD program designed to advance educators' positive character traits and professional-development, and to assist educators with identifying meaningful ways to integrate experiential teaching methods into their schools. Due to its success, the NCOBEI program should be viewed by OB and other professional wilderness organizations as a model program that future programs could emulate. Educators may serve as an eager population capable of benefiting personally and professionally from experiential wilderness-based opportunities. Investing in the advancement of educators through supporting their PD in new and innovative ways can directly impact the quality of schools, the retention of educators, and ultimately, the success of students.

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Appendix

Appendix 4.1 Outcomes Measured and Items Used

Outcomes Measured	Items Used
Positive Character Traits	
Compassion	I consider the motivation of others when interpreting situations.
	I am empathetic to other's feelings.
	I desire to alleviate other's suffering.
	I can imagine what it is like to be in someone else's shoes.
	I take student's home life into consideration.
Craftsmanship	I carefully design classroom experiences.
	I take pride in my work.
	I implement feedback from others to improve my work.
	I stay up-to-date on current educational research.
	I constantly look for ways to improve as a teacher.
Grit	I often set a goal but later choose to pursue a different one.
	New ideas and new projects sometimes distract me from previous ones.
	I become interested in new pursuits every few months.
	My interests change from year to year.
	I have been obsessed with a certain idea or project for a short time but later lost interest.
	I have difficulty maintaining my focus on projects that take more than a few months to complete.
	I have achieved a goal that took years of work.
	I have overcome setbacks to conquer an important challenge.
	I finish whatever I begin.
	Setbacks don't discourage me.
	I am a hard worker.
Physical Fitness	How often do you participate in physical activities?
	Per physical activity session, what is the duration that you are physically active?
	Please indicate the intensity-level of your physical activity.
Self-efficacy	I can always manage to solve difficult problems if I try hard enough.
	If someone opposes me, I can find the means and ways to get what I want.
	It is easy for me to stick to my aims and accomplish my goals.
	I am confident that I could deal efficiently with unexpected events.
	Thanks to my resourcefulness, I know how to handle unforeseen situations.
	I can solve most problems if I invest the necessary effort.
	I can remain calm when facing difficulties because I can rely on my coping abilities.
	When I am confronted with a problem, I can usually find several solutions.
	If I am in trouble, I can usually think of a solution.
	I can usually handle whatever comes my way.
Self-Reflection	It is important to me to evaluate the things that I do.
	It is important to spend time in self-reflection.
	I examine my feelings.
	I take time to reflect on my thoughts.
	I am aware of my thoughts.
	I think about the way I feel about things.
Professional-Development Outcomes	
Attitudes Regarding the Teaching Profession	I can facilitate high levels of learning for my students.
	I effectively communicate with the school administration.
	I care about my job performance.
	I enjoy teaching.
	I am passionate about my teaching career.
	I believe in the end-value of my work.
	I am motivated to obtain mastery-level teaching skills.
Experiential Education Beliefs and Confidence	Implementing concrete learning experiences.
	Facilitating students' reflection on learning experiences.
	Facilitating students' formation of abstract concepts and generalizations.

	Facilitating students in actively experimenting with theories and concepts.
	Focusing classroom activities on process rather than knowledge.
	Overcoming barriers to implementing experiential teaching.
	Explaining experiential learning situations to the students.
	Facilitating learning outside students' perceived comfort level.
	Delegating authority to students.
	Helping students identify connections between one context and another.
	Using a major project or field experience to guide learning over the entire course.
	Posing problems for students to solve.
	Providing time for reflection during and after learning experiences.
Leadership Roles in Schools	Serve in a leadership role in my school (e. g. team leader, department chair, grade-level leader, etc.)
	Volunteer to lead professional development workshops for colleagues.
	Take on new school responsibilities outside the classroom.
	Share teaching techniques in the broader school community (e. g. students, parents, and other stakeholders).
	Share instructional resources with colleagues.
	Serve as an instructional and/or curriculum specialist to help colleagues implement effective teaching strategies.
	Serve as a catalyst for continual improvement in my school.
	Participate in decision-making related to new initiatives in the school.
	Carry out decisions and plans designed for school-wide improvement.
	Create ways to improve the school environment.
	Obtain support in addressing new policies, rules, and regulations.
	Maintain a school environment in which students feel good about themselves.
Positive Classroom Climate Beliefs and Confidence	Facilitating student engagement.
	Identifying appropriate activities for your students.
	Accepting a less teacher-centric role in the classroom.
	Creating a classroom that is emotionally safe (absent of excessive judgment).
	Providing clear expectations for students.
Social Capital	My coworkers feel comfortable confiding in me.
	Even in difficult situations, I can depend on my coworkers.
	I find that my coworkers are honest with me.
	I trust my coworkers.
	I share personal information with my coworkers.

CHAPTER FIVE

SUMMARY AND CONCLUSION

This dissertation sought to fill a gap in the literature by investigating the influence of an experiential wilderness-based professional development program for K-12 educators. This chapter summarizes the findings from the previous three chapters in response to our stated research objectives. At the conclusion of this chapter our study limitations and future research needs are discussed.

Objective #1: Determine the range of personal and professional development outcomes educators associate with participation in the experiential wilderness-based professional development program.

To investigate the range of personal and professional development outcomes, surveys were designed utilizing an adapted form of the Means End Analysis technique (Gutman, 1982). Open-ended questions were used to identify if, and how, the NCOBEI program influenced educators' personal, as well as professional, development. We sampled educators in the 2017/2018 NCOBEI cohort at the end of the second three-day retreat ten-months following their wilderness experience, and alumni of the program (2007-2016). In total, 105 educators were surveyed.

Our study was successful in identifying a range of personal and professional outcomes that educators associated with participation in the EWBPD program. Our findings confirm the assumption made by EWBPD programs that by exposing educators

to experiential challenge-based learning environments, educators could advance in personal and professional development.

The results of our study emphasize a call for continued support of EWBPD opportunities for K-12 educator and other school stakeholders. Our findings broadly identify the power of non-traditional PD program in influencing educators' personal and professional development. Further use of these trainings should be integrated for students, school administrators, and other stakeholders of schools' success. Exposing additional stakeholders to this form of PD may increase the efficacy of participants successfully transferring experiential teaching methods in their schools and may cultivate an improved school-wide experiential learning culture. Additionally, the findings from our study highlight the need for further experiential programming designed to advance participants' professional development outcomes. These programs should utilize diverse recreational activities (e.g. white-water rafting, caving, canyoneering), range in duration and skill-levels, and incorporate the principles of practicing experiential education as identified by the Association of Experiential Education.

Objective #2: Determine the influence of specific programming elements of an experiential wilderness-based professional development program on participant outcomes.

To investigate the influence of specific programming elements of the NCOBEI program on educators' personal and professional development, we surveyed participants in the 2017/2018 NCOBEI program 10-months following the wilderness experience. We

also surveyed alumni of the NCOBEI program that had participated between 2007-2016. Open-ended questions were used to identify if, and how, the NCOBEI program influenced educators' personal, as well as professional, development. Next, educators were asked to identify the top three most influential programmatic elements they attributed to the delivery of the outcomes they identified in the previous question. In total, 105 educators were surveyed.

The findings from our study indicate that educators strongly associate personal and professional forms of development with exposure to the wilderness environment, fellow participants in their wilderness cohort, and forms on continued support. However, these influential programming elements consequently influenced educators' personal and professional development in different ways. The findings from our study contribute to EWBPD programmers' ability to allocate programming and resources towards specific programming elements educators associate with desired personal and professional development outcomes.

The wilderness components' influence towards educators' personal and professional development supports the further use of this type of PD for educators. Additionally, adapted forms of experiential PD that incorporate novel physically and emotionally challenging learning experiences should be tested. Many professional wilderness-based organizations have adapted characteristics of the wilderness setting in urban contexts (e.g. high ropes courses, artificial rivers and ski-slopes) in hopes of providing the same feelings of discomfort, challenge, and group dependence while

influencing participants who may be less likely to participate in wilderness settings. Further efforts should be allocated towards providing novel experiences in experiential PD opportunities for educators in both wilderness and non-wilderness settings.

Objective #3: Determine if an experiential wilderness-based professional development program influences educators' belief in the importance of, and their confidence in, integrating experiential teaching methods in their schools.

To investigate the immediate influence of the NCOBEI program, we surveyed educators in the 2017/2018 NCOBEI cohort. Surveys were administered prior and immediately following the 8-day wilderness experience. To explore the long-term influence of the EWBPD program, follow-up surveys were administered 10-months following the wilderness experience, on day three of the second 3-day retreat. To further investigate the long-term influence of the program we also surveyed alumni (2007-2016) of the NCOBEI. In total, 105 educators were surveyed.

The findings from our study indicate that educators' participation in EWBPD can positively influence their belief in the importance of, and their confidence in, integrating experiential teaching methods in their schools. However, our data suggests that these increases are not permanent and do not remain elevated long-term.

Implications of our study include alternative forms of EWBPD that incorporate additional school stakeholders (e.g. administrators, students, parents) and further research agendas investigating educators' transference of experiential lessons gained during the

wilderness experience in their schools. By further integrating members of the school community, EWBPD programs may increase participants' success in both training transfer and sustained use of experiential teaching methods via establishing a positive transfer climate. Additionally, further research should investigate how educators can better transfer specific characteristics of the wilderness-setting (e.g. challenge, physical exertion, dependence upon group performance) in non-wilderness settings (e.g. school classrooms).

Objective #4: Determine if educators' beliefs and confidence in experiential teaching methods can predict their later use of these methods.

Utilizing the Association of Experiential Education's Principals of Experiential Education Practices (AEE, 2018), 13 items were developed to assess educators' beliefs in the importance of, and confidence in, integrating experiential teaching methods in their schools. These items were included in the post-wilderness surveys administered immediately following educators' wilderness experience. On the 10-month follow-up survey, administered on day three of the second 3-day retreat, educators were asked if they currently utilize experiential teaching methods in their classrooms. Next, for educators who indicated that did use these methods, educators were asked to indicate how. In total, 30 educators were surveyed.

The findings from our study indicate that educators' beliefs and confidence regarding integrating experiential teaching methods could not be used to predict their later use. The implications of our study include a call for additional research

incorporating diverse educator samples and further investigation into alternative predictors (e.g. perceived school capacity, school administrators' beliefs, and educators' acceptance of challenge).

We recommend further investigation into alternative predictors including educators' perceived school capacity, school administrators' beliefs in the importance of educators utilizing these methods, and educators' acceptance of challenge in experimenting with new teaching methods.

Objective #5: Determine if the program can enhance educators' positive character traits and professional practices.

We integrated a mixed-methods approach to examine the influence of a year-long experiential wilderness-based training on K-12 school educators' positive character traits and professional development immediately following, and up to 10-months post, their wilderness training. We utilized Kirkpatrick's taxonomy framework (1976) to organize these outcomes. This framework allowed us to systematically evaluate the experiential wilderness-based training and to better organize associated outcomes.

The findings from our study indicate that the NCOBEI was a successful in advancing educators' character traits and professional-development, and in assisting educators with identifying meaningful ways to integrate experiential teaching methods into their schools. While all intended outcomes of the program were not identified as being significantly influenced as result of participation, educators in our sample indicated

a high degree of satisfaction, a range of trait and skill development, and behavioral changes up to 10-months following their program exposure. This study demonstrates the power of EWBPD programs for preparing educators to make professional changes in their schools and classrooms.

Further research should investigate phase four (results) of EWBPD programs serving K-12 educators. Phase four attempts to determine whether the learning has had a positive effect on the broader society or institution (Kirkpatrick, 1996). Our findings provide a broad overview of the efficacy of EWBPD program on educators' outcomes received. However, investigating participants' school and community-level impacts associated with participation in EWBPD would greater contribute to our understanding of these PD programs and their utility for educators' personal and professional advancement and ultimately student learning.

Study Limitations

This research had several limitations. First, although the NCOBEI has been running for over 10 years, the program has changed in many ways. These variations include intentional changes (e.g. course locations, program directors, staffing, duration of wilderness expedition, and educational resources utilized) as well unintentional changes (e.g. use of electronic resources, inclement weather, wildlife interactions, natural disasters). Thus, the experiences held by educators in our sample may have varied. Although our integrated methods aimed to minimize misinterpretation of the data, select influential programming elements (e.g. specific instructors, electronic resource library,

ropes course, forms of continued support, leadership opportunities) may or may not have been exposed to all participants.

Second, educators' initial high measurements on select intended outcomes (e.g. craftsmanship, compassion, attitudes regarding the teaching profession) may have masked the influence of the NCOBEI program. Even though significant changes may not have been identified associated with participation in the program, educators may have still been influenced in undocumented ways (e.g. changes in how they establish positive classroom culture, behave regarding environmental stewardship, and in demonstrations of compassion and craftsmanship).

Third, due to acknowledged best-practices of adventure-based recreation programs, our sample size was small. In response to this limited sample size, we utilized an exploratory approach. This small number limits our ability to generalize conclusions.

Future Research Opportunities and Conclusion

Future research should replicate our study to formalize or refute our conclusions. These additional studies could contribute to our findings by investigating larger samples of educators with diverse beliefs and experiences integrating experiential educations methods in their schools. Determining the challenges and successes experienced by educators in integrating experiential teaching methods in their school would hold value for educators and programmers alike.

Further research should also focus on alternative forms of EWBPD programs. These programs may include additional stakeholders of the school system (e.g. administrators, parents, students) as participants in hopes of further supporting successful

transference of experiential learning methods in schools and classrooms. These alternative forms of EWBPD could also include varying durations of training and be associated with unique influences on educators' personal and professional development.

Lastly, further research should focus on investigating school and community changes associated with educators' participation in these training programs. This line of research may include educators, students, administrators, and parents of students linked with participating educators to determine the second tier of influence EWBPD programs have on school communities.

Our study demonstrates the power and potential of experiential wilderness-based professional development programs to influence educators and, by extension, their students. The integration of more experiential teaching methods into schools could have positive implications for many stakeholders. As we continue to better understand how to provide more powerful and successful PD opportunities for educators, we will strengthen our education system, students, and future.

APPENDICES

Appendix A

Pre-Wilderness Survey Instrument

North Carolina Outward Bound Educators Initiative

Department of Parks, Recreation & Tourism Management
Clemson University

Introduction

In an effort to continually improve the North Carolina Outward Bound's Educator Initiative programs, please complete the following questionnaire. Your answers will be used to help improve future educational programs so please provide your honest assessment of your program. Your answers will be kept completely confidential; we will not share any of this information with your school or school district. Your participation is completely voluntary. The survey should take about 25 minutes to complete. Thank you for your participation.

Please provide your initials here: _____

Do you currently employ experiential education techniques in the classroom? *Circle one choice:* **Yes** **No**

If so, how do you currently implement experiential education within your classroom? *Please provide specific examples:*

Please indicate how often you perform each of the following: *(Check one box for each question)*	(0) Never →				(5) Somewhat Often				→ (10) A Great Deal		
I hold regular meetings with one or more colleagues regarding teaching techniques.	0	1	2	3	4	5	6	7	8	9	10
I discuss experiential teaching methods with colleagues.	0	1	2	3	4	5	6	7	8	9	10
I actively participate in coaching with a mentor.	0	1	2	3	4	5	6	7	8	9	10
I seek additional professional development opportunities that incorporate experiential education.	0	1	2	3	4	5	6	7	8	9	10

Within your school classroom, how important are the following to your performance as a teacher? In the next column, please rate your level of confidence to perform these same tasks. (*Check one box for importance and one box for confidence for each question)*

	Importance							Confidence						
	Not at all Important			Somewhat Important			Extremely Important	Not at all Confident			Somewhat Confident			Extremely Confident
Implementing concrete learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' reflection on learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' formation of abstract concepts and generalizations.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students in actively experimenting with theories and concepts.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Focusing classroom activities on process rather than knowledge.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating student engagement.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Identifying appropriate activities for your students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Overcoming barriers to implementing experiential teaching.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	Not at all Important			Somewhat Important			Extremely Important	Not at all Confident			Somewhat Confident			Extremely Confident
Accepting a less teacher-centric role in the classroom.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Explaining experiential learning situations to the students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Creating a classroom that is emotionally safe (absent of excessive judgment).	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating learning outside students' perceived comfort level.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Providing clear expectations for students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Delegating authority to students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Helping students identify connections between one context and another.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Using a major project or field experience to guide learning over the entire course.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Posing problems for students to solve.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Providing time for reflection during and after learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
My coworkers feel comfortable confiding in me.	0	1	2	3	4	5	6	7	8	9	10
Even in difficult situations, I can depend on my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I find that my coworkers are honest with me.	0	1	2	3	4	5	6	7	8	9	10
I trust my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I share personal information with my coworkers.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how often you do each of the following: *(Check one box for each question)*	(0) Not Often →				(5) Somewhat Often				→ (10) Extremely Often		
Pick up trash left by others.	0	1	2	3	4	5	6	7	8	9	10
Participate in activities to improve the environment.	0	1	2	3	4	5	6	7	8	9	10
Follow Leave No Trace Principles.	0	1	2	3	4	5	6	7	8	9	10
Teach Leave No Trace Principles to my students.	0	1	2	3	4	5	6	7	8	9	10

Teach my students positive environmental behaviors.	0	1	2	3	4	5	6	7	8	9	10

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
My actions can impact the health of the environment.	0	1	2	3	4	5	6	7	8	9	10
I am careful not to harm the environment when I am recreating outside.	0	1	2	3	4	5	6	7	8	9	10
I can make the natural environment in my community better.	0	1	2	3	4	5	6	7	8	9	10
I have the power to help protect the environment.	0	1	2	3	4	5	6	7	8	9	10
I feel it is important to take good care of the environment.	0	1	2	3	4	5	6	7	8	9	10

A. How often do you participate in physical actives? *Please circle one choice.*
   a. Little to none
   b. Once a week
   c. 2-3 days a week
   d. 4-5 days a week
   e. 6-7 days a week

B. Per physical activity session, what is the duration that you are physically active? *Please circle one choice.*
   a. Less than 30 minutes
   b. Between 30 minutes and an hour
   c. Between 1 and 2 hours
   d. More than 2 hours

C. Please indicate the intensity-level of your physical activity? *Please circle one choice.*
   a. Not at all physically strenuous
   b. Slightly physically strenuous
   c. Moderately physically strenuous
   d. Extremely physically strenuous

D. Please indicate the type of physical activity you participate in. *List all that apply.*

   _____

E. Please indicate the setting(s) in which you are physically active. *List all that apply.*

   _____

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I consider the motivation of others when interpreting situations.	0	1	2	3	4	5	6	7	8	9	10
I am empathetic to other's feelings.	0	1	2	3	4	5	6	7	8	9	10
I desire to alleviate other's suffering.	0	1	2	3	4	5	6	7	8	9	10
I can imagine what it is like to be in someone else's shoes.	0	1	2	3	4	5	6	7	8	9	10
I take student's home life into consideration.	0	1	2	3	4	5	6	7	8	9	10

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I can always manage to solve difficult problems if I try hard enough.	0	1	2	3	4	5	6	7	8	9	10
If someone opposes me, I can find the means and ways to get what I want.	0	1	2	3	4	5	6	7	8	9	10
It is easy for me to stick to my aims and accomplish my goals.	0	1	2	3	4	5	6	7	8	9	10
I am confident that I could deal efficiently with unexpected events.	0	1	2	3	4	5	6	7	8	9	10
Thanks to my resourcefulness, I know how to handle unforeseen situations.	0	1	2	3	4	5	6	7	8	9	10
I can solve most problems if I invest the necessary effort.	0	1	2	3	4	5	6	7	8	9	10
I can remain calm when facing difficulties because I can rely on my coping abilities.	0	1	2	3	4	5	6	7	8	9	10
When I am confronted with a problem, I can usually find several solutions.	0	1	2	3	4	5	6	7	8	9	10
If I am in trouble, I can usually think of a solution.	0	1	2	3	4	5	6	7	8	9	10
I can usually handle whatever comes my way.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how much you currently agree with each of the following statements: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree						→ (10) Completely Agree
I feel mentally fatigued.	0	1	2	3	4	5	6	7	8	9	10
I can release the stress and tensions of daily life.	0	1	2	3	4	5	6	7	8	9	10
I am absorbed in my immediate surroundings.	0	1	2	3	4	5	6	7	8	9	10
It is easy for me to maintain my attention.	0	1	2	3	4	5	6	7	8	9	10
I am able to have fun.	0	1	2	3	4	5	6	7	8	9	10
There is too much going on in my life.	0	1	2	3	4	5	6	7	8	9	10
I sense that I belong here.	0	1	2	3	4	5	6	7	8	9	10
Select #3 for this question.	0	1	2	3	4	5	6	7	8	9	10
I am able to be mindful and not focus on things back home.	0	1	2	3	4	5	6	7	8	9	10

Rank your level of expertise in being a leader in the outdoors. *Circle one.*

Novice →			**Intermediate** →							**Advanced**
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

1. Are you female or male? *Circle one.* **Female** **Male**
2. What is your age? _____
3. Which of the following best describes your racial or ethnic background? *(Check all that apply)*

☐ White, not of Hispanic descent
☐ Black, not of Hispanic descent
☐ Hispanic
☐ Asian
☐ Mixed (two or more races)
☐ Native Hawaiian or other Pacific Islander
☐ American Indian or Alaskan Native
☐ Other_____

4. How long have you worked as a teacher? _____
5. What grade do you teach? _____
6. What content areas do you teach? *List all that apply.*

   _____

7. What is the name of the school where you work? _____

8. Please indicate the type of school in which you currently work. *Please circle one choice.*
    A. Public
    B. Private
    C. Charter
    D. Parochial
    E. Other (Please Describe) _____

9. What % of students at your school are enrolled in free and reduced lunch? _____

10. Of the students that you work with, what percentage fall into each of the following categories?
    A. Individualized Education Program (IEP)_____
    B. Gifted_____
    C. English as a second language (ESL) _____
    D. Grade-level_____
    E. Other (Please Describe)_____

11. How many teachers at your school have participated in an Outward Bound course? *Please provide a number.* _____

12. What type of flexibility do you have to implement change within your school? *Please circle one choice below.*

Not at all Flexible					**Somewhat Flexible**					**Very Flexible**
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

13. Who is responsible for allowing flexibility within your school? *Circle one.*
    A. District-level administration
    B. School-level administration
    C. Department-level chair
    D. Grade-level chair
    E. Other (Please describe)_____

14. Do you perceive any challenges to implementing lessons or units related to the Educators Initiative program? *Circle one.*
    Yes **No**

14a. Please explain your answer to #14 below.

15. Have you worked in a career outside of being a teacher? *Circle one.*
    Yes **No**

16. If yes, what was your previous career path(s)? *List all that apply.*

_____

17. Have you participated in continuing education programs other that the Educators Initiative? *Circle one.*

Yes **No**

A. If so, what other programs have you participated in? *List all that apply.*

---

18. Does your school require that you complete continuing education units? *Circle one.* **Yes** **No**

Thank you for your participation in this important study!

If you have questions or comments contact Dr. Robert Powell by email at rbp@clemson.edu. You may also contact the Clemson University Office of Research Compliance by email at irb@clemson.edu or toll-free at 866-297-3071 if you have questions regarding your rights as a research participant.

Appendix B

Post-Wilderness Survey Instrument

North Carolina Outward Bound Educators Initiative

Department of Parks, Recreation & Tourism Management
Clemson University

Introduction

In an effort to continually improve the North Carolina Outward Bound's Educator Initiative programs, please complete the following questionnaire. Your answers will be used to help improve future educational programs so please provide your honest assessment of your program. Your answers will be kept completely confidential; we will not share any of this information with your school or school district. Your participation is completely voluntary. The survey should take about 20 minutes to complete. Thank you for your participation.

Please provide your initials here: _____

1. Reflecting upon your completed wilderness experience, how has this experience affected or influenced you?

2. Were there any specific environmental characteristics or features that made your experience particularly impactful? *Please describe all that apply below.*

3. Were there any specific educational elements (e. g. leader qualities, opportunities to model instruction, roll playing) that made your experience particularly impactful? *Please describe all that apply below.*

4. Were there any specific social elements of the experience (particular people with you or lack of people, etc.) that made your experience particularly impactful? *Please describe all that apply below.*

5. Reflecting upon your completed wilderness experience, to what degree has the following characteristics of your wilderness experience influenced the outcomes described in question #1? *(Check one box for each question)*

	(0) Not at all Influential →				(5) Somewhat Influential				→ (10) A Great Deal Influential		
Being Disconnected (no technology).	0	1	2	3	4	5	6	7	8	9	10
Physical Challenge.	0	1	2	3	4	5	6	7	8	9	10
Mystery (not knowing what was coming next).	0	1	2	3	4	5	6	7	8	9	10
Inclement Weather.	0	1	2	3	4	5	6	7	8	9	10
Beauty of the natural environment.	0	1	2	3	4	5	6	7	8	9	10
Wilderness Environment.	0	1	2	3	4	5	6	7	8	9	10
Social Interactions.	0	1	2	3	4	5	6	7	8	9	10
Small Group Size.	0	1	2	3	4	5	6	7	8	9	10
Group Cohesion.	0	1	2	3	4	5	6	7	8	9	10
Having Fun.	0	1	2	3	4	5	6	7	8	9	10
Opportunities to Model Instruction.	0	1	2	3	4	5	6	7	8	9	10
Roll Playing/Scenarios.	0	1	2	3	4	5	6	7	8	9	10
Opportunities to Reflect (e. g. journaling or debriefing).	0	1	2	3	4	5	6	7	8	9	10
Instruction.	0	1	2	3	4	5	6	7	8	9	10
Leadership Opportunities.	0	1	2	3	4	5	6	7	8	9	10
Course Challenges.	0	1	2	3	4	5	6	7	8	9	10
Camp-craft.	0	1	2	3	4	5	6	7	8	9	10
Solo Experience.	0	1	2	3	4	5	6	7	8	9	10
New Experiences.	0	1	2	3	4	5	6	7	8	9	10
Rock Climbing.	0	1	2	3	4	5	6	7	8	9	10
Camping.	0	1	2	3	4	5	6	7	8	9	10

6. Were there other programmatic characteristics that contributed to the outcomes you received? *Circle one:*
Yes No

a) If yes, please list all that apply and indicate each element's degree of influence.

Please list all programmatic characteristics below.	(0) Not at all Influential →				(5) Somewhat Influential				→ (10) A Great Deal Influential		
	0	1	2	3	4	5	6	7	8	9	10
	0	1	2	3	4	5	6	7	8	9	10
	0	1	2	3	4	5	6	7	8	9	10
	0	1	2	3	4	5	6	7	8	9	10

	Importance							Confidence						
	Not at all Important			Important			Extremely Important	Not at all Confident			Confident			Extremely Confident
Implementing concrete learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' reflection on learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' formation of abstract concepts and generalizations.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students in actively experimenting with theories and concepts.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Focusing classroom activities on process rather than knowledge.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating student engagement.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Identifying appropriate activities for your students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Overcoming barriers to implementing experiential teaching.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	Not at all Important			Important			Extremely Important	Not at all Confident			Confident			Extremely Confident
Accepting a less teacher-centric role in the classroom.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Explaining experiential learning situations to the students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Creating a classroom that is emotionally safe (absent of excessive judgment).	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating learning outside students' perceived comfort level.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Providing clear expectations for students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Delegating authority to students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Helping students identify connections between one context and another.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Using a major project or field experience to guide learning over the entire course.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Posing problems for students to solve.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Providing time for reflection during and after learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I can always manage to solve difficult problems if I try hard enough.	0	1	2	3	4	5	6	7	8	9	10
If someone opposes me, I can find the means and ways to get what I want.	0	1	2	3	4	5	6	7	8	9	10
It is easy for me to stick to my aims and accomplish my goals.	0	1	2	3	4	5	6	7	8	9	10
I am confident that I could deal efficiently with unexpected events.	0	1	2	3	4	5	6	7	8	9	10
Thanks to my resourcefulness, I know how to handle unforeseen situations.	0	1	2	3	4	5	6	7	8	9	10
I can solve most problems if I invest the necessary effort.	0	1	2	3	4	5	6	7	8	9	10
I can remain calm when facing difficulties because I can rely on my coping abilities.	0	1	2	3	4	5	6	7	8	9	10
When I am confronted with a problem, I can usually find several solutions.	0	1	2	3	4	5	6	7	8	9	10
If I am in trouble, I can usually think of a solution.	0	1	2	3	4	5	6	7	8	9	10
I can usually handle whatever comes my way.	0	1	2	3	4	5	6	7	8	9	10

Within your school classroom, how important are the following to your performance as a teacher? In the next column, please rate your level of confidence to perform these same tasks. (*Check one box for importance and one box for confidence for each question).*

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree					→ (10) Completely Agree	
My coworkers feel comfortable confiding in me.	0	1	2	3	4	5	6	7	8	9	10
Even in difficult situations, I can depend on my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I find that my coworkers are honest to me.	0	1	2	3	4	5	6	7	8	9	10
I trust my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I share personal information with my coworkers.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how often you intend to do each of the following: *(Check one box for each question)*	(0) Not Often →				(5) Somewhat Often					→ (10) Extremely Often	
Pick up trash left by others.	0	1	2	3	4	5	6	7	8	9	10
Participate in activities to improve the environment.	0	1	2	3	4	5	6	7	8	9	10
Teach my students positive environmental behaviors.	0	1	2	3	4	5	6	7	8	9	10
Follow Leave No Trace Principles.	0	1	2	3	4	5	6	7	8	9	10
Teach Leave No Trace Principles to my students.	0	1	2	3	4	5	6	7	8	9	10

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All				(5) Somewhat Agree					(10) Completely Agree	
My actions can impact the health of the environment.	0	1	2	3	4	5	6	7	8	9	10
I am careful not to harm the environment when I am recreating outside.	0	1	2	3	4	5	6	7	8	9	10
I can make the natural environment in my community better.	0	1	2	3	4	5	6	7	8	9	10

I have the power to help protect the environment.	0	1	2	3	4	5	6	7	8	9	10
I feel it is important to take good care of the environment.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how often **you intend to** do each of the following: *(Check one box for each question)*	(0) Never				(5) Somewhat Often					(10) Extremely Often	
Serve in a leadership role within my school (e. g. team leader, department chair, grade-level leader, etc.)	0	1	2	3	4	5	6	7	8	9	10
Volunteer to lead professional development workshops for colleagues.	0	1	2	3	4	5	6	7	8	9	10
Take on new school responsibilities outside the classroom.	0	1	2	3	4	5	6	7	8	9	10
Share teaching techniques within the broader school community (e. g. students, parents, and other stakeholders).	0	1	2	3	4	5	6	7	8	9	10
Share instructional resources with colleagues.	0	1	2	3	4	5	6	7	8	9	10
Serve as an instructional and/or curriculum specialist to help colleagues implement effective teaching strategies.	0	1	2	3	4	5	6	7	8	9	10
Serve as a catalyst for continual improvement in my school.	0	1	2	3	4	5	6	7	8	9	10
Participate in decision-making related to new initiatives in the school.	0	1	2	3	4	5	6	7	8	9	10
Carry out decisions and plans designed for school-wide improvement.	0	1	2	3	4	5	6	7	8	9	10
Create ways to improve the school environment.	0	1	2	3	4	5	6	7	8	9	10
Obtain support in addressing new policies, rules, and regulations.	0	1	2	3	4	5	6	7	8	9	10
Maintain a school environment in which students feel good about themselves.	0	1	2	3	4	5	6	7	8	9	10

F. How often do you intend to participate in physical actives? *Please circle one choice.*
   a. Little to none
   b. Once a week
   c. 2-3 days a week
   d. 4-5 days a week
   e. 6-7 days a week

G. Per physical activity session, what is the duration that you intend to be physically active? *Please circle one choice.*
   a. Less than 30 minutes
   b. Between 30 minutes and an hour
   c. Between 1 and 2 hours
   d. More than 2 hours

H. Please indicate the intensity-level of your intended physical activity? *Please circle one choice.*
   a. Not at all physically strenuous
   b. Slightly physically strenuous
   c. Moderately physically strenuous
   d. Extremely physically strenuous

Please indicate how much you agree with the following statements: *(Check one box for each question)*	(0) Not at All				(5) Somewhat Agree					(10) Completely Agree	
I often set a goal but later choose to pursue a different one.	0	1	2	3	4	5	6	7	8	9	10
New ideas and new projects sometimes distract me from previous ones.	0	1	2	3	4	5	6	7	8	9	10
I become interested in new pursuits every few months.	0	1	2	3	4	5	6	7	8	9	10
My interests change from year to year.	0	1	2	3	4	5	6	7	8	9	10
I have been obsessed with a certain idea or project for a short time but later lost interest.	0	1	2	3	4	5	6	7	8	9	10
I have difficulty maintaining my focus on projects that take more than a few months to complete.	0	1	2	3	4	5	6	7	8	9	10
I have achieved a goal that took years of work.	0	1	2	3	4	5	6	7	8	9	10
I have overcome setbacks to conquer an important challenge.	0	1	2	3	4	5	6	7	8	9	10

I finish whatever I begin.	0	1	2	3	4	5	6	7	8	9	10
Setbacks don't discourage me.	0	1	2	3	4	5	6	7	8	9	10
I am a hard worker.	0	1	2	3	4	5	6	7	8	9	10
I am diligent.	0	1	2	3	4	5	6	7	8	9	10

I. Please indicate the type of physical activity you intend to participate in. *List all that apply.*

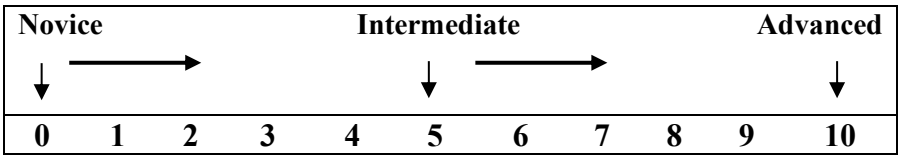
_____

J. Please indicate the setting(s) in which you intend to be physically active. *List all that apply.*

_____

Please indicate how much you agree with the following statements: *(Circle one for each question)*	(0) Not at All →			(5) Somewhat Agree →					(10) Completely Agree		
I feel comfortable in a wilderness setting.	0	1	2	3	4	5	6	7	8	9	10
I am competent in my wilderness navigational skills (e. g. map readings, trail identification).	0	1	2	3	4	5	6	7	8	9	10
I am interested in pursuing new outdoor recreational activities.	0	1	2	3	4	5	6	7	8	9	10
I could confidently lead a wilderness-backpacking trip.	0	1	2	3	4	5	6	7	8	9	10
I enjoy being outdoors.	0	1	2	3	4	5	6	7	8	9	10

1. Rank your level of expertise in being a leader in the outdoors. *Circle one.*



2. Do you perceive any challenges to implementing lessons or units related to the Educators Initiative program? *Circle one.*

Yes **No**

2a. Please explain your answer to #2 below.

3. Please rate your overall satisfaction with your Educators Initiative program: *Circle one.*

Not at all Satisfied ↓					Somewhat Satisfied ↓					Very Satisfied ↓
0	1	2	3	4	5	6	7	8	9	10

4. How likely are you to recommend another teacher to participate in the Educators Initiative? *Circle one.*

Not at all Likely ↓					Somewhat Likely ↓					Very Likely ↓
0	1	2	3	4	5	6	7	8	9	10

Comments

If you have any comments that you would like to share about your North Carolina Outward Bound Educators Initiative program, please use the following space.

Thank you for your participation in this important study!

If you have questions or comments contact Dr. Robert Powell by email at rbp@clemson.edu. You may also contact the Clemson University Office of Research Compliance by email at irb@clemson.edu or toll-free at 866-297-3071 if you have questions regarding your rights as a research participant.

Appendix C

10-Month Follow-Up Post-Wilderness Survey Instrument

North Carolina Outward Bound Educators Initiative

Department of Parks, Recreation & Tourism Management
Clemson University

Introduction

In an effort to continually improve the North Carolina Outward Bound's Educator Initiative programs, please complete the following questionnaire. Your answers will be used to help improve future educational programs so please provide your honest assessment of your program. Your answers will be kept completely confidential; we will not share any of this information with your school or school district. Your participation is completely voluntary. The survey should take about 25 minutes to complete. Thank you for your participation.

Please provide your initials here: _____

Do you currently employ experiential education techniques in the classroom? *Circle one choice:* **Yes** **No**

If so, how do you currently implement experiential education within your classroom? *Please provide specific examples:*

Please indicate how often you perform each of the following: *(Check one box for each question)*	(0) Never →				(5) Somewhat Often					→ (10) A Great Deal	
I hold regular meetings with one or more colleagues regarding teaching techniques.	0	1	2	3	4	5	6	7	8	9	10
I discuss experiential teaching methods with colleagues.	0	1	2	3	4	5	6	7	8	9	10
I actively participate in coaching with a mentor.	0	1	2	3	4	5	6	7	8	9	10
I seek additional professional development opportunities that incorporate experiential education.	0	1	2	3	4	5	6	7	8	9	10

	Importance							Confidence						
	Not at all Important			Somewhat Important			Extremely Important	Not at all Confident			Somewhat Confident			Extremely Confident
Implementing concrete learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' reflection on learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' formation of abstract concepts and generalizations.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students in actively experimenting with theories and concepts.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Focusing classroom activities on process rather than knowledge.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating student engagement.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Identifying appropriate activities for your students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Overcoming barriers to implementing experiential teaching.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	Not at all Important			Somewhat Important			Extremely Important	Not at all Confident			Somewhat Confident			Extremely Confident
Accepting a less teacher-centric role in the classroom.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Explaining experiential learning situations to the students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Creating a classroom that is emotionally safe (absent of excessive judgment).	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating learning outside students' perceived comfort level.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Providing clear expectations for students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Delegating authority to students.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Helping students identify connections between one context and another.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Using a major project or field experience to guide learning over the entire course.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Posing problems for students to solve.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Providing time for reflection during and after learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Within your school classroom, how important are the following to your performance as a teacher? In the next column, please rate your level of confidence to perform these same tasks. (*Check one box for importance and one box for confidence for each question)*

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All				(5) Somewhat Agree					(10) Completely Agree	
My coworkers feel comfortable confiding in me.	0	1	2	3	4	5	6	7	8	9	10
Even in difficult situations, I can depend on my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I find that my coworkers are honest with me.	0	1	2	3	4	5	6	7	8	9	10
I trust my coworkers.	0	1	2	3	4	5	6	7	8	9	10
I share personal information with my coworkers.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how often you do each of the following: *(Check one box for each question)*	(0) Not Often	→			(5) Somewhat Often			→		(10) Extremely Often	
Pick up trash left by others.	0	1	2	3	4	5	6	7	8	9	10
Participate in activities to improve the environment.	0	1	2	3	4	5	6	7	8	9	10

Follow Leave No Trace Principles.	0	1	2	3	4	5	6	7	8	9	10
Teach Leave No Trace Principles to my students.	0	1	2	3	4	5	6	7	8	9	10
Teach my students positive environmental behaviors.	0	1	2	3	4	5	6	7	8	9	10

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I can facilitate high levels of learning for my students.	0	1	2	3	4	5	6	7	8	9	10
I effectively communicate with the school administration.	0	1	2	3	4	5	6	7	8	9	10
I care about my job performance.	0	1	2	3	4	5	6	7	8	9	10
I carefully design classroom experiences.	0	1	2	3	4	5	6	7	8	9	10
I take pride in my work.	0	1	2	3	4	5	6	7	8	9	10
I enjoy teaching.	0	1	2	3	4	5	6	7	8	9	10
I implement feedback from others to improve my work.	0	1	2	3	4	5	6	7	8	9	10
I stay up-to-date on current educational research.	0	1	2	3	4	5	6	7	8	9	10
I am passionate about my teaching career.	0	1	2	3	4	5	6	7	8	9	10
I constantly look for ways to improve as a teacher.	0	1	2	3	4	5	6	7	8	9	10
I believe in the end-value of my work.	0	1	2	3	4	5	6	7	8	9	10
I am motivated to obtain mastery-level teaching skills.	0	1	2	3	4	5	6	7	8	9	10

K. How often do you participate in physical actives? *Please circle one choice.*

a. Little to none
b. Once a week
c. 2-3 days a week
d. 4-5 days a week
e. 6-7 days a week

L. Per physical activity session, what is the duration that you are physically active? *Please circle one choice.*
   a. Less than 30 minutes
   b. Between 30 minutes and an hour
   c. Between 1 and 2 hours
   d. More than 2 hours

M. Please indicate the intensity-level of your physical activity? *Please circle one choice.*
   a. Not at all physically strenuous
   b. Slightly physically strenuous
   c. Moderately physically strenuous
   d. Extremely physically strenuous

N. Please indicate the type of physical activity you participate in. *List all that apply.*

_____

O. Please indicate the setting(s) in which you are physically active. *List all that apply.*

_____

Please indicate how much you agree with the following statements: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I often set a goal but later choose to pursue a different one.	0	1	2	3	4	5	6	7	8	9	10
New ideas and new projects sometimes distract me from previous ones.	0	1	2	3	4	5	6	7	8	9	10
I become interested in new pursuits every few months.	0	1	2	3	4	5	6	7	8	9	10
My interests change from year to year.	0	1	2	3	4	5	6	7	8	9	10
I have been obsessed with a certain idea or project for a short time but later lost interest.	0	1	2	3	4	5	6	7	8	9	10
I have difficulty maintaining my focus on projects that take more than a few months to complete.	0	1	2	3	4	5	6	7	8	9	10
I have achieved a goal that took years of work.	0	1	2	3	4	5	6	7	8	9	10
I have overcome setbacks to conquer an important challenge.	0	1	2	3	4	5	6	7	8	9	10
I finish whatever I begin.	0	1	2	3	4	5	6	7	8	9	10
Setbacks don't discourage me.	0	1	2	3	4	5	6	7	8	9	10
I am a hard worker.	0	1	2	3	4	5	6	7	8	9	10

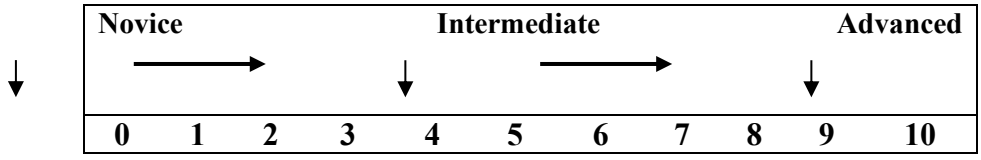
I am diligent.	0	1	2	3	4	5	6	7	8	9	10

How often do you perform each of the following? *(Check one box for each question)*	(0) Never →				(5) Sometimes →					(10) Always	
Eat healthy foods on a regular basis.	0	1	2	3	4	5	6	7	8	9	10
Maintain a balanced work/life load.	0	1	2	3	4	5	6	7	8	9	10
Spend time with friends and loved-ones.	0	1	2	3	4	5	6	7	8	9	10
Make time for leisure activities.	0	1	2	3	4	5	6	7	8	9	10
Pursue new experiences.	0	1	2	3	4	5	6	7	8	9	10

Please indicate your level of agreement with each of the following: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree →					(10) Completely Agree	
I can always manage to solve difficult problems if I try hard enough.	0	1	2	3	4	5	6	7	8	9	10
If someone opposes me, I can find the means and ways to get what I want.	0	1	2	3	4	5	6	7	8	9	10
It is easy for me to stick to my aims and accomplish my goals.	0	1	2	3	4	5	6	7	8	9	10
I am confident that I could deal efficiently with unexpected events.	0	1	2	3	4	5	6	7	8	9	10
Thanks to my resourcefulness, I know how to handle unforeseen situations.	0	1	2	3	4	5	6	7	8	9	10
I can solve most problems if I invest the necessary effort.	0	1	2	3	4	5	6	7	8	9	10
I can remain calm when facing difficulties because I can rely on my coping abilities.	0	1	2	3	4	5	6	7	8	9	10
When I am confronted with a problem, I can usually find several solutions.	0	1	2	3	4	5	6	7	8	9	10
If I am in trouble, I can usually think of a solution.	0	1	2	3	4	5	6	7	8	9	10
I can usually handle whatever comes my way.	0	1	2	3	4	5	6	7	8	9	10

Please indicate how much you currently agree with each of the following statements: *(Check one box for each question)*	(0) Not at All →				(5) Somewhat Agree				→ (10) Completely Agree		
I feel mentally fatigued.	0	1	2	3	4	5	6	7	8	9	10
I can release the stress and tensions of daily life.	0	1	2	3	4	5	6	7	8	9	10
I am absorbed in my immediate surroundings.	0	1	2	3	4	5	6	7	8	9	10
It is easy for me to maintain my attention.	0	1	2	3	4	5	6	7	8	9	10
I am able to have fun.	0	1	2	3	4	5	6	7	8	9	10
There is too much going on in my life.	0	1	2	3	4	5	6	7	8	9	10
I sense that I belong here.	0	1	2	3	4	5	6	7	8	9	10
Select #3 for this question.	0	1	2	3	4	5	6	7	8	9	10
I am able to be mindful and not focus on things back home.	0	1	2	3	4	5	6	7	8	9	10

Rank your level of expertise in being a leader in the outdoors. *Circle one.*



19. Have you experienced any challenges in implementing lessons or units related to the Educators Initiative program? *Circle one.*

Yes **No**

2. Please explain your answer to #1 below.

3. Reflecting upon your Educators Initiative program, did this experience influence your professional practices as an educator? **Yes** or **No** (*circle one*). If yes, *please explain how below.*

4. Please list the three programmatic elements (e.g. the wilderness experience, monthly phone calls, school visits, 3-day retreats, fellow participants, **etc**.) that influenced the delivery of the outcomes described in Question #3.
1. _____ 2._____3._____

5. Reflecting upon your Educators Initiative experience, did this experience influence you personally? **Yes** or **No** *(circle one). If yes, please explain how below.*

6. Please list the top three programmatic elements (e.g. the wilderness experience, monthly phone calls, school visits, 3-day retreats, fellow participants, **etc**.) that you attribute the outcomes indicated in Question #5.
1. _____ 2._____3._____

Thank you for your participation in this important study!

If you have questions or comments contact Hunter Holland or Dr. Robert Powell by email at rbp@clemson.edu. You may also contact the Clemson University Office of Research Compliance by email at irb@clemson.edu or toll-free at 866-297-3071 if you have questions regarding your rights as a research participant.

Appendix D

Alumni Survey Instrument

North Carolina Outward Bound Educators Initiative

Department of Parks, Recreation & Tourism Management
Clemson University

In an effort to improve the North Carolina Outward Bound's Educator Initiative programs, we are interested in your opinions and perspectives. Your answers will be used to help improve future educational programs so please provide your honest assessment of your program. Results will be reported in broad terms and no identifiers will be included. Your participation is completely voluntary. The survey should take about 10 minutes to complete. Thank you for your participation.

1. Are you currently a K-12 school educator? **Yes** or **No** (*circle one*). If yes, at what school do you work? _____. If no, what year did you leave your teaching position _____ and what is your current profession? _____.

If you answered "No" to question #1, please skip to question # 8.

2. How long have you worked as an educator? *(In years)* _____

3. What grade(s) do you teach? *List all that apply.* _____

4. What content area(s) do you teach? *List all that apply.*

_____

5. Reflecting upon your Educators Initiative program, did this experience influence your professional practices as an educator? **Yes** or **No** (*circle one*). If yes, *please explain how below.*

6. Please list the three programmatic elements (e.g. the wilderness experience, monthly phone calls, school visits, 3-day retreats, fellow participants, etc.) that influenced the delivery of the outcomes described in Question #5.

1. _____ 2._____3._____

7. How important are the following to your performance as an educator? In the next column, please rate your level of confidence to perform these same tasks. (*Check one box for importance and one box for confidence for each question)*

	Importance							Confidence						
	Not at all Important →			Somewhat Important →			Extremely Important	Not at all Confident →			Somewhat Confident →			Extremely Confident
Implementing concrete learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' reflection on learning experiences.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students' understanding of abstract concepts and generalizations.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Facilitating students in actively experimenting with theories and concepts.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Focusing classroom activities on process rather than knowledge.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

8. Reflecting upon your Educators Initiative experience, did this experience influence you personally? **Yes** or **No** *(circle one). If yes, please explain how below.*

9. Please list the top three programmatic elements (e.g. the wilderness experience, monthly phone calls, school visits, 3-day retreats, fellow participants, etc.) that you attribute the outcomes indicated in Question #8.
1. _____ 2._____3._____

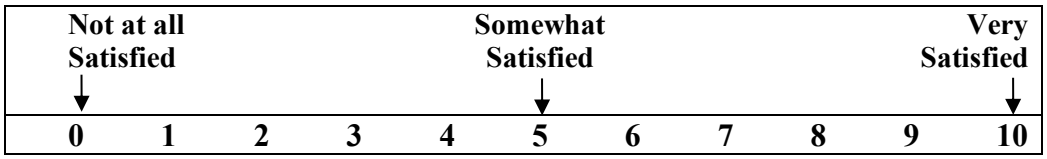
10. Please indicate how much you agree with the following statements: *(Check one box for each question)*	(0) Not at All				(5) Somewhat Agree						(10) Completely Agree
I often set a goal but later choose to pursue a different one.	0	1	2	3	4	5	6	7	8	9	10
New ideas and new projects sometimes distract me from previous ones.	0	1	2	3	4	5	6	7	8	9	10
I become interested in new pursuits every few months.	0	1	2	3	4	5	6	7	8	9	10
My interests change from year to year.	0	1	2	3	4	5	6	7	8	9	10
I have been obsessed with a certain idea or project for a short time but later lost interest.	0	1	2	3	4	5	6	7	8	9	10
I have difficulty maintaining my focus on projects that take more than a few months to complete.	0	1	2	3	4	5	6	7	8	9	10
I have achieved a goal that took years of work.	0	1	2	3	4	5	6	7	8	9	10
I have overcome setbacks to conquer an important challenge.	0	1	2	3	4	5	6	7	8	9	10
I finish whatever I begin.	0	1	2	3	4	5	6	7	8	9	10
Setbacks don't discourage me.	0	1	2	3	4	5	6	7	8	9	10
I am a hard worker.	0	1	2	3	4	5	6	7	8	9	10
I am diligent.	0	1	2	3	4	5	6	7	8	9	10

11. Did you participate in all elements of the Educators Initiative program (e.g. 8-day wilderness experience, three-day retreats, phone calls)? **Yes** or **No** (*circle one*). If no, what elements did you **not** participate in? *Please list all that apply*.

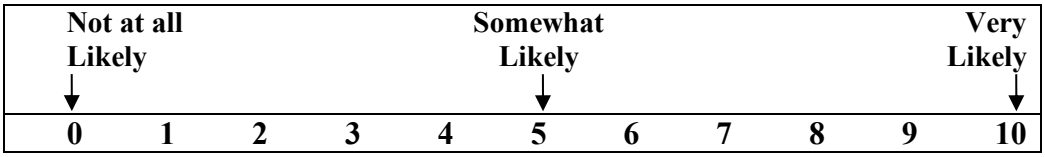
_____.

12. Was your wilderness instructor a K-12 school educator? *Circle one: Yes No I don't know*

13. Please rate your overall satisfaction with your Educators Initiative program: *Circle one.*



14. How likely are you to recommend the Educators Initiative? *Circle one.*



15. Please indicate how much you agree with the following statements: *(Check one box for each question)*	(0) Not at All					(5) Somewhat Agree					(10) Completely Agree
I consider the motivation of others when interpreting situations.	0	1	2	3	4	5	6	7	8	9	10
I am empathetic to other's feelings.	0	1	2	3	4	5	6	7	8	9	10
I desire to alleviate other's suffering.	0	1	2	3	4	5	6	7	8	9	10
I can imagine what it is like to be in someone else's shoes.	0	1	2	3	4	5	6	7	8	9	10
I take student's home life into consideration.	0	1	2	3	4	5	6	7	8	9	10
I carefully design classroom experiences.	0	1	2	3	4	5	6	7	8	9	10
I take pride in my work.	0	1	2	3	4	5	6	7	8	9	10
I implement feedback from others to improve my work.	0	1	2	3	4	5	6	7	8	9	10
I stay up-to-date on current educational research.	0	1	2	3	4	5	6	7	8	9	10
I constantly look for ways to improve as a teacher.	0	1	2	3	4	5	6	7	8	9	10
It is important to me to evaluate the things that I do.	0	1	2	3	4	5	6	7	8	9	10
It is important to spend time in self-reflection.	0	1	2	3	4	5	6	7	8	9	10
I examine my feelings.	0	1	2	3	4	5	6	7	8	9	10

I take time to reflect on my thoughts.	0	1	2	3	4	5	6	7	8	9	10
I am aware of my thoughts.	0	1	2	3	4	5	6	7	8	9	10
I think about the way I feel about things.	0	1	2	3	4	5	6	7	8	9	10

16. What is your age _____ and gender? *Circle one.* **Female Male**

17. Which of the following best describes your ethnic background? *(Check all that apply)*

☐ White, not of Hispanic descent
☐ Black, not of Hispanic descent
☐ Hispanic
☐ Asian
☐ Mixed (two or more races)
☐ Native Hawaiian or other Pacific Islander
☐ American Indian or Alaskan Native
☐ Other_____

Thank you for your participation in this important study!

If you have questions or additional comments contact W. Hunter Holland or Dr. Robert Powell by email at rbp@clemson.edu. You may also contact the Clemson University Office of Research Compliance by email at irb@clemson.edu or toll-free at 866-297-3071 if you have questions regarding your rights as a research participant.

Appendix E

Support Letter from NCOB Director of Education Dr. Gordon Grant

1/5/2018

To: Alumni of the NCOBS Educators Initiative Courses

From: Dr. Gordon Grant, Education Director, NCOBS

Re: Clemson University Research on the Educators Initiative Program

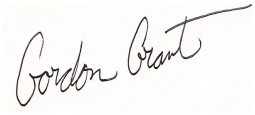
Greetings!

My name is Gordon Grant and I am the new Education Director at NCOBS. I began my role in July of 2016, taking over from Dr. Michael Follo, who has taken well deserved retirement after creating this excellent program and running it for ten years. I come from a background of experiential and academic education, and value both: I have been involved with outdoor institutions like Camps Mondamin and Green Cove, Nantahala Outdoor Center, and NCOBS since the mid 1970's, and I just retired from public education, where I was a teacher and principal for the past 25 years. I believe in education in all its forms, and also believe that the form of experiential learning developed and implemented by Kurt Hahn almost a century ago – and carried into this century through Outward Bound and other institutions - is more relevant now than ever for teachers and the students and families they serve.

In light of that, I'm asking for your assistance by participating in an evaluation of the Educators Initiative, and am introducing you to Hunter Holland of Clemson University, who is doing his doctoral dissertation on the program, which will give us critical feedback on the program and the outcomes associated with participation. Hunter is well qualified to do this work: he comes from a background of guiding mountaineering trips and other programs in the backcountry, and he has excellent academic credentials. We have an institutional Memorandum of Understanding (MOU) that allows Hunter to contact you. For this part of the evaluation, he is contacting all of the alumni of the Educators Initiative to investigate your opinions regarding the impact of the program as well as what we can do better.

Please help Hunter when he contacts you, so that he may investigate, as an academic reviewer of our program, questions whose answers will allow us to improve the program and make it even more relevant to the needs of the school communities we serve. All responses are anonymous and the results will be reported in broad statistical terms and not linked to your name in any way. Surveys can be completed in physical-form or online and each individual that participates in Hunter's study will be entered into a drawing to win one of two Amazon Fire Sticks. Please contact me if you have any questions. I appreciate your participation in helping us ask of ourselves the NCOBS challenge questions: "What? So What? Now What?" The work begun in the mountains carries on.

Onward,



Gordon Grant, Ed.D.
Email: ggrant@ncobs.org
Desk Ph: 828 293 2130; cell: 828 713 7267

Appendix F

Incentive Letter

Incentive to Participate

Complete and return this survey before February 1st to be entered in the first of two drawings to win an Amazon Fire Stick! The second drawing will include all surveys returned before March, 1st. The survey is also available online. Check for a link in your email, visit the NCOB Educators Initiative Facebook page, or contact Hunter Holland at whholla@clemson.edu to access the survey. Winners will be contacted via email and will be mailed their reward in April of 2018! **Thank you for your support!**